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THE UNIVERSITY OF ALBERTA

CHILDREN'S COGNITIVE AND AFFECTIVE RESPONSE TO COSTUME REPRODUCTIONS WORN BY A FEMALE INTERPRETER AT THE VICTORIA SETTLEMENT, AN ALBERTA PROVINCIAL HISTORIC SITE

by

KAREN LESLIE WELLS

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

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(SIGNED) Karen Wells

PERMANENT ADDRESS:

201 G.H. Michener Park
Edmonton, Alberta
T6H 5B5

DATED December 15 1987

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled CHILDREN'S COGNITIVE AND AFFECTIVE RESPONSE TO COSTUME REPRODUCTIONS WORN BY A FEMALE INTERPRETER AT THE VICTORIA SETTLEMENT, AN ALBERTA PROVINCIAL HISTORIC SITE, submitted by KAREN LESLIE WELLS in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in CLOTHING AND TEXTILES.

Supervisor

Date December 15, 1981

DEDICATION

To the memory of:

Gertrude Elizabeth Alice Foxall-Paterson
Adelaide Denton-Wells

ABSTRACT

The purpose of this study was to investigate whether the use of costume reproductions, when worn by an interpreter, affects children's cognitive and affective response towards the interpretive programme presented by the interpreter.

The sample consisted of 93 grade 4 and 5 students taken from intact class groups. Because of the nature of the sample, a pretest was administered to all the participants, to determine if the different class groups were equivalent.

Before commencing with the interpretive programme, the subjects were randomly assigned to either a Costume or Uniform Group. The interpreter wore costume reproductions while presenting the programme to the former group and a uniform while presenting to the latter group. A posttest which included an objective test and an affective questionnaire was administered to all the subjects at the completion of the programme.

A t-test performed on the objective posttest indicated that there was a significant difference for cognitive response between the Costume and Uniform Groups. The findings showed that the information transferred to the subjects was greater when the interpreter was dressed in costume reproductions than when dressed in a uniform. Further analysis showed that the Costume Group received the

highest scores for all questions on the posttest that had a corresponding abstract component in the interpretive programme. The Uniform Group however, received the highest scores for all questions that had a corresponding concrete/ visual component in the programme.

T-tests performed on the affective posttest data indicated that a significant difference existed between both groups for affective response. The Costume Group had a more positive attitude towards both the programme and the interpreter's clothing.

Analysis of the participants' cognitive and affective responses to the interpretive programme indicated that a significant correlation did not exist between the variables for both the Costume and Uniform Groups.

It was concluded that for this study, the use of costume reproductions made a significant difference to the participants' cognitive and affective responses. The author therefore supports the use of costume reproductions in interpretive programming. Further research and recommendations were suggested.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

I. INTRODUCTION

A. Purpose and Statement of the Problem

One of the major responsibilities of museums and historic sites is education. These institutions provide a vast resource which has the ability not only to impart facts, but also to affect people's knowledge, values, and attitudes. Unlike formal education facilities, museums and historic sites have the ability to disseminate knowledge to the self-directed visitor in a casual and relaxed atmosphere. Both of the former provide a multi-sensory communication system, which imparts knowledge through the use of objects as well as through the written and/or spoken word.

A museum or historic site's primary mode of communicating to the public is through an exhibit or programme. Ideally, these communication systems are designed with specific goals and objectives in mind. However, evaluation of these communication systems to determine their success in reaching said goals and objectives is often overlooked.

Initial research, conducted within the museum during the 1920's and 1930's focused on demographic studies (Robinson, 1933a) and behaviour studies (Melton, 1933; Robinson, 1933a, 1933b). The former gave museum staff knowledge of the visitor, while the latter gave them knowledge of how the visitor moved and length of exhibit

viewing time. Today, demographic studies (Barkley, 1979; Dixon, Courtney & Bailey, 1974) and behaviour studies (Borun, 1977; Brown, 1979; Cone & Kendall, 1978; Eason & Linn, 1976; Lakota, 1976; Screven, 1976; Shettel, 1973) still dominate the literature. However, evaluating visitor response (learning studies) to exhibits and programmes is becoming an important focus (Andrews, 1984; Boggs, 1977; Borun, 1977; Dyer, 1980; Eason & Linn, 1976; Peart, 1982; Screven, 1974b, 1975, 1976, 1978, 1979; Shettel, 1973; Washburn, 1975b). Where behaviour studies describe what the visitor is physically doing, learning studies attempt to measure the effect exhibits and programmes have on the visitors' knowledge and attitude. In other words, they attempt to measure the effectiveness of the museum's communication system. The majority of learning studies are conducted within a traditional museum environment and evaluate visitor response to exhibits. In these cases, learning studies and behaviour studies are often carried out simultaneously. Studies which deal specifically with communication within an historic site setting are less frequent, and generally evaluate special event programming (Boyer, Irving, James & Vukelich, 1982).

Historic sites favour the use of interpretive programming to communicate with their visitors. Interpretive programming attempts to create understanding

by stimulating sensory perceptions such as sight, sound, smell, touch, and taste.

It is not uncommon for historic sites to costume their interpretive staff. Although studies have been conducted which examine source credibility, perception, and communication length as a function of dress style, (Brock, 1965; Giles & Chavasse, 1975; Hamid, 1969; Hovland & Weiss, 1952; Lambert, 1972; McCroskey, 1966; McCroskey & Young, 1981), as yet, studies which deal specifically with the use of costume reproductions in historic site programming have not been published. However, the literature does indicate that historic site personnel support the use of costume because costume functions as a visual communication system which sets the interpreters apart from the visitors, and allows the interpreters to look like they belong on the site (Alderson & Payne Low, 1976; Tilden, 1977). Public programming staff within historic sites also find that there is a heightened sense of realism if interpretation is done in costume (Alderson & Payne Low, 1976).

Studies which evaluate children's behaviour date to the mid-twenties (Bloomberg, 1929; Gibson, 1925; Goldberg, 1933). In these studies, researchers used different formats to present similar information to children. The purpose was to determine which was the most advantageous method of instruction within the museum. Today, environmental education literature provides a body of

knowledge concerned with evaluating children's cognitive and affective responses (Bennett, 1965; Chrouser, 1975; Falk, Martin & Balling, 1978; Harvey, 1951; Peck, 1975; Wright, 1980). These studies tend to focus on measuring cognitive and affective gains for outdoor versus indoor-taught environmental educational objectives. Museum literature provides a limited number of similar studies which focus on evaluating children's behaviour (Brooks & Vernon, 1956) and/or cognitive and affective responses (Brooks & Vernon, 1956; Stronck, 1983; Van Rennes, 1978; Wright, 1980) to specific exhibits or programmes conducted within a science museum or within the science portion of a general museum. Published evaluation research which focuses on measuring children's responses to exhibits and programmes designed specifically for them and presented within a museum or historic site environment is almost non-existent (Boyer et al., 1982; Stronck, 1983).

The purpose of this study was to investigate whether the use of costume reproductions, (worn by an interpreter) affects children's cognitive and affective response towards the interpretive programme presented by the interpreter. The children's responses to the costume reproductions worn by the interpreter were analyzed as follows:

1) to what extent did the children 'like' the costume reproductions worn by the interpreter?

2) to what extent did the costume reproductions worn by the interpreter affect the message communicated by the interpreter?

The question therefore addressed was: What relationship exists between grade four and five children's cognitive responses to the interpretive programme and the children's affective responses to the interpretive programme and clothing worn by a female interpreter in the Clerk's Quarters at the Victoria Settlement, an Alberta Historic Site?

B. Justification

It is not uncommon for museums and historic sites to incorporate the use of historic costume reproductions within their programming. Although adults and children appear to enjoy programmes which involve the use of costume reproductions, there is little by way of a knowledge base which indicates what message is being communicated to the visitor, if any; how the visitor is interpreting the message; if the visitor's interpreted message is similar to that which the institution wishes to communicate; and whether the use of historic costume reproductions enhances the message the institution is attempting to communicate.

Although many studies have been conducted which deal with the communicative effectiveness of didactic and participatory exhibits within a museum environment, the author has found only one study conducted by Dottavio and

McLellan (1985) which deals with the effect of different clothing styles in an interpretive setting. Dottavio and McLellan (1985) analyzed the effect of clothing on interpreter's credibility, and concluded that clothing was an important consideration for interpreters who interacted with the public. However, there are virtually no empirical data available which deal with the communicative effectiveness of historic costume reproductions when used for interpretive purposes within a museum or historic site environment.

Use of costume reproductions in programming for children, especially between the ages of 7 to 12 years is noted throughout the literature (Arnold, 1980; Carter & Boyer, 1982; Franco, 1979; Gerlach, 1981). Costume is frequently used as a vehicle for communicating with children, however, the belief that through the use of costume an educational message is successfully communicated is as yet untested.

The expense involved in producing and maintaining historic costume reproductions is extremely high. This coupled with financial restraints which tend to affect cultural activities during less prosperous times, make it necessary to spend all costume dollars effectively and efficiently. Research which deals with visitor response to historic costume reproductions and how reproductions could be used most effectively would aid the decision making

process involved when developing a costume programme and developing interpretive programmes which incorporate the use of costume reproductions.

It is the intent of this study to provide information which relates to the following: (a) children's reaction to the use of costume reproductions when worn by an interpreter at a historic site; and (b) whether the use of costume reproductions aids children's understanding of the message the institution wishes to communicate through the interpretive programme. Finally, it is hoped that the knowledge gained from such a study will provide limited assistance in relation to decisions made regarding costume research, costume reproduction production, and the use of costume reproductions in interpretive programming.

C. Objectives

This study had the following seven objectives:

1. To determine if a difference existed in the participants' cognitive response to the costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not.
2. To determine if a difference existed in the participants' cognitive response to the non-costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not.

3. To determine if a difference existed in the participants' affective response to the costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not.
4. To determine if a difference existed in the participants' affective response to the non-costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not.
5. To determine if a relationship existed between the participants' affective response to the costume component of the interpretive programme and the participants' affective response to the non-costume component of the interpretive programme.
6. To determine if a relationship existed between the participants' cognitive response to the non-costume component of the interpretive programme and the participants' affective response to the non-costume component of the interpretive programme.
7. To determine if a relationship existed between the participants' cognitive response to the interpretive programme and the participants' affective response to the costume component of the interpretive programme.

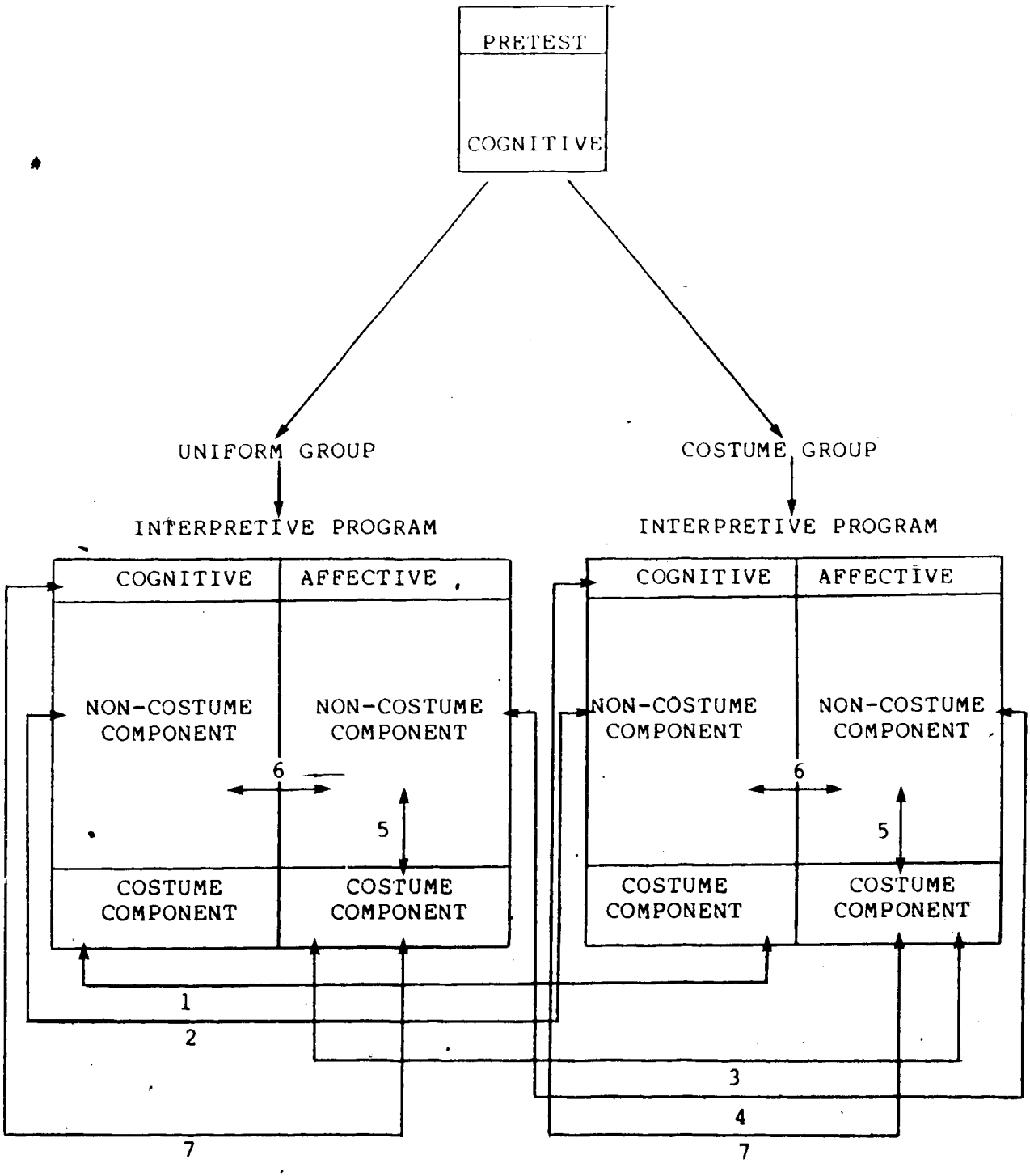

Figure 1. Diagram of Study Objectives

Null Hypotheses

To meet objectives one through seven the following null hypotheses were developed:

1. No significant difference exists in the participants' cognitive response to the costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not.
2. No significant difference exists in the participants' cognitive response to the non-costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreters and those who did not.
3. No significant difference exists in the participants' affective response to the costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not.
4. No significant difference exists in the participants' affective response to the non-costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not.
5. No significant relationship exists between the participants' affective response to the costume component of the interpretive programme and the

participant's affective response to the non-costume component of the interpretive programme.

6. No significant relationship exists between the participants' cognitive response to the non-costume component of the interpretive programme and the participants' affective response to the non-costume component of the interpretive programme.

7. No significant relationship exists between the participants' cognitive response to the interpretive programme and the participant's affective response to the costume component of the interpretive programme.

E. Definitions

Historic Site: [Refers to] any site which includes or is comprised of an historical resource of an immovable nature or which cannot be disassociated from its context without destroying some or all of its value as an historical resource and includes a prehistoric, historic or natural site or structure (Alberta Historical Resources Act of 1980).

"Historic resource" means any work of nature or of man that is primarily of value for its palaeontological, archaeological, prehistoric, historic, cultural, natural, scientific or aesthetic interest including, but not limited to, a palaeontological, archaeological, prehistoric, historic or natural site, structure or object (Alberta Historical Resources Act of 1980).

For this study historic site is operationally defined as the Victoria Settlement, an Alberta Provincial Historic Site.

Museum: A non-profit permanent establishment not existing primarily for the purpose of conducting temporary exhibits, exempt from Federal and Provincial government taxes, open to the public and

> administered in the public interest, for the purpose of conserving and preserving, studying, interpreting, assembling and exhibiting to the public for its instruction and enjoyment, objects and specimens of educational and cultural value (Canadian Museums Association, 1977).

The term museum includes the following informal learning environments: museums, historic sites, historic buildings, art galleries, zoos, and aquaria. "Informal learning environments are places that social groups (usually family units) visit in their leisure time to enjoy themselves and learn something" (Peart, 1982, p. 8).

Affective Response: Refers to responses that are related to attitudes, feelings, emotions, values, sensitivities, interests, preferences, and approach-avoidance tendencies, as well as the development of appreciations and behaviours (Bloom, 1956; Krathwohl, Bloom & Masia, 1964; Screven, 1974b, 1976). Affective response is operationally defined as the participants' responses, feelings, attitudes, and preferences towards the interpretive programme as measured by the affective questionnaire (see Appendix E).

Cognitive Response: Refers to activities such as thinking, reasoning, knowing, remembering, reproducing, problem solving, conceptual learning, and cause-effect relationships (Antrobus, 1970; Bloom, 1956; Brown, 1979; Ellis, 1978; Screven, 1974b, 1976). Cognitive response is operationally defined as the facts and concepts the participants acquire after participating in the

interpretive programme as measured by the objective test (see Appendix E).

Demographic Data: This is operationally defined as the participants' grade, sex, age, and whether the school they attend is located in an urban or rural community as collected from the demographic questionnaire (see Appendix D).

Location of School: A school is operationally defined as being located in a rural area if the population of that area is less than 10,000. Conversely, if the population is greater than 10,000, then the school is operationally defined as being located in an urban area.

Prior Knowledge of Interpretive Programme Subject Matter: This is operationally defined as the facts and concepts the participants possess pertaining to the interpretive programme's subject matter prior to visiting the historic house on the site. Prior knowledge was measured by using an objective test (see Appendix D).

Participant: Is operationally defined as a child in grade four or five between 8 and 12 years of age who is a member of an organized school tour group visiting the Victoria Settlement and who is involved in the interpretive programme presented at the site by the interpreter dressed in either costume or uniform.

Interpretation: A communication process designed to reveal meanings and relationships of our cultural and natural heritage to the public through first-hand involvement with an object, artifact, landscape or site (Interpretation Canada, 1978).

The emphasis of interpretation is on first-hand experience and the use of real objects rather than the communication of factual information.

Interpretive Programme: An educational activity and/or presentation which incorporates the use of objects, illustrative materials, and first-hand experiences. To be effective, programmes should be age and group specific. As well, they should be designed with measurable goals and objectives so that programme evaluation is possible (Tilden, 1977). Interpretive programming for children should consider the following:

> Interpretation addressed to children (say, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program (Tilden, 1977, p. 47).

Within the framework of this study interpretive programme is operationally defined as a programme which consists of a costume component and a non-costume component. The former involves all aspects of the programme which pertains to costume. This includes discussions, slides and photographs incorporated within the interpretive programme, as well as the interpreter's mode of dress, whether it be costume reproductions or Alberta Culture uniform. The latter involves all aspects of the programme which does not

pertain to costume. Interpreter: One who gives meaning of; explains or makes clear. One who conveys the meaning of (an experience, a song, play, etc.) by artistic representation or performance (Avis, 1976, p. 706).

Sharpe (1976) states that interpreters should "sparkle". "'Sparkle' may be a rather nebulous term to use in the description of personality characteristics, it nevertheless seems the sum of a series of desirable qualities" (Sharpe, 1976, p. 616). Sharpe defines sparkle, and hence the personality traits of the ideal interpreter as follows: one who is enthusiastic, articulate, warm, poised, credible, self-confident, pleasant in appearance and demeanor, and one who has a sense of humour and perspective. Sharpe (1976) also indicates that the need for a formal education is not essential to become a successful interpreter (p. 615).

Costume Programme:

> The term is used to emphasize the belief, within the historic costume profession, that the integration of period costume into an historic setting should be viewed as a 'program' which warrants the same ongoing formal planning and budgeting as other programs (Blackstock, 1984, p. 40).

May involve one or more of the following:

1. The research and production of costume reproductions used to clothe interpretive and volunteer staff working within a museum or historic site.

2. The research and production of costume reproductions used for special programming within a museum or historic site.
3. The research, production, and integration of costume reproductions for furnishing or exhibit items within a museum or historic site.
4. Researching and designing programmes which specifically use costume (original or reproduction) as a communicative vehicle for learning. The expanse of a costume programme depends on the organization's mandate, size of the organization, and availability of manpower and funding.

Reproduction: The drafting (taking measurements from the original garment, using period or modern drafting techniques, or a combination of two or more of these techniques), and/or draping, and construction of a new garment which resembles an original costume in design line(s), proportion(s), fabric(s), trim(s), and notions. However, seam construction, seam finishes, position and method of closing may differ from the original garment. The degree of authenticity strived for in a reproduction depends on one or more of the following: a) end use; b) de-accessioning policy; c) durability desired; d) funding; e) human resources; f) resources available; g) time line; h) materials available. For these reasons, each reproduction must be considered separately. Reproduction

is operationally defined as the costume worn by the interpreter in the historic house.

F. Assumptions

The assumptions of this study are as follows:

1. The objective test (pretest) is an adequate indicator of equivalencies among the class groups.
2. The interpretive programme given by the interpreter is consistent for all participant groups.
3. The objective test (posttest) is an adequate measure of the participants' cognitive response to the interpretive programme.
4. The affective questionnaire is an adequate measure of the participants' affective response to the interpretive programme.
5. All participants will answer the questions on the demographic and objective questionnaires and the affective questionnaire with the same degree of conscientiousness.

G. Limitations

This study is limited to the use of a sample of grade four and five students who range in age from 8 to 12 years, who participated in a formal school group interpretive programme for the first time, at one Alberta Provincial Historic Site and therefore generalizations to all children of various ages (whether an individual or a group), all

interpretive programmes, and all historic sites can not be inferred from this study.

This study is also limited to the costume reproductions (Appendix A) currently used at the Victoria Settlement and the uniform currently used by Alberta Culture (Appendix A) at many of the Provincial Historic Sites. Therefore generalizations to all costume reproductions and/or uniforms used in all interpretive programmes can not be inferred from this study, particularly with regard to the degree of accuracy with which the costume reproductions represent clothing worn by women in 1895 and/or the clothing's degree of attractiveness.

II. REVIEW OF THE LITERATURE

The review of literature includes five sections. The first is a discussion concerning museum education. The second looks specifically at learning within a museum environment. The third explains an approach to basic communication theory and how this information relates to the museum environment. The fourth looks at exhibit and programme planning and evaluation. The last section examines the use of reproductions in a museum environment, and more specifically the use of historic costume reproductions.

A. Museum Education

It is evident throughout the literature that education is regarded as one of the museum's primary functions (Borun, 1978; Harrison, 1967; Herbert, 1980, 1981, 1982; Kurylo, 1976; Larrabee, 1968; Newsom & Silver, 1978; Screven, 1974a, 1974b, 1976; Shettel, 1973; UNESCO, 1973, 1978; Winstanely, 1967; Wittlin, 1970, 1979; Wohler, 1976). Literature which deals specifically with museum education stresses two themes. The first suggests that the foundation of museum education is "material evidence such as artifacts and specimens ..." (Herbert, 1981, p. 15). The second suggests that the "visual approach to learning is the special contribution of the museum ..." (United Nations Educational Scientific and Cultural Organization

[UNESCO], 1973, p. 18). However, what the literature lacks is a definition of 'education' in a museum context. Herbert (1981) states that "beyond the idea that museum education is about learning to look at things, museum educators are neither clear nor in agreement when it comes to explicating the connotation of 'education' in their world" (p. 15).

Herbert (1981, 1982), Pitman-Gelles (1981), Tilden (1982), and other authors have all commented on the lack of common literature which deals with museum education. Pitman-Gelles (1981) notes that museums have adapted existing educational methodologies and processes to the museum's environment and incorporated techniques within their programming that have proven effective in the classroom, the arts, history, and social studies. In a Canadian context Herbert (1982) states that "most trends which affect the public education system reverberate in the museum environment" (p. 20). She indicates that museum education tends to be reactive rather than active and consequently dependent on conditions within the public education system (p. 20).

Because of this lack of clarity, Herbert (1981) found that education in a museum environment is expressed in the context of specific instances of programming. For example, in his report, The History Museum as an Effective Educational Institution, Patrick Wohler (1976) states that:

> It is a sad commentary on the professional responsibility of major museums and a further indicator of the need for museum education studies, that education programmes are held for the sake of having programmes because programmes are a good thing (p. 62).

When trying to understand further connotations that the word 'education' has for museum educators, several themes occur throughout the literature. It should be noted that in a Canadian context Herbert (1981) deals extensively with these themes, and the author will refer to her work throughout this section.

The first of these themes is the idea that museum education should be oriented to the individual and individual discovery. Grove (1968) states that museums "invented discovery learning a long time ago" (p. 84). This interest in individual study is linked to the informal, non-compulsory nature of the institution. An individual arrives at the museum door with a great deal of initial interest and motivation. Once inside, the individual is free to observe what he wishes for any duration of time. He can enjoy or not enjoy himself, learn or not learn, and when he so desires he can walk out (Herbert, 1981; Newsom, 1978).

Along with the idea of individual discovery and learning is the stimulation of affective learning. Caston (1980) states that this is one of the museum's special strengths.

> Much has been written from as far back as the philosophers of taste, to present day humanists about this encounter between man and object. It is a highly personal experience, and often words seem to be inadequate to express what is happening. Some call this an aesthetic experience, others choose not to label it at all. As an educator you can not "teach" this; you can only provide the conditions where meaningful encounters can occur. When this happens you must be ready to draw it out, nourish it, and aid in its development (p. 24).

The second theme deals with the holistic approach to learning that can flourish within a museum environment. Many authors have made comments concerning the advantages of this approach to learning (Borun, 1977; Caston, 1980; Herbert, 1981, 1982; Ott, 1980; Wittlin, 1949, 1970). Ott (1980) states that museum education "attempts to expand the horizons of the individuals who participate through inter-disciplinary means that cut across many humanistic and scientific concerns" (p. 9). Through this type of learning an understanding of oneself is achieved through an understanding of other cultures, an understanding of the arts, history, social sciences and science, through visual literateness, creative activities, direct involvement and a feeling of ease and enjoyment (Ott, 1980; Wittlin, 1970).

Another recurring theme deals with the sensory-oriented, and participatory experiences available within a museum. Museums have a tactile, kinetic, three-dimensional quality which involves more than one sense. According to Michael Spock "a museum has one advantage over books and

films: it gives information through direct experience with real objects and real places. It is the only medium where all the senses may be excited" (Katz, 1965, p. 212).

The fourth of these themes deals with the object-based learning which can occur within the museum environment. Caston (1980) states that "unlike any other educational resource, the museum can rely on authentic objects, not just words, as the chief educational tool" (p. 22). The object is the "tangible evidence of the natural world and man's response to his world" (Caston, 1980, p. 22). Caston makes a very crucial point when she states that "it is important to remember that to learn about objects can be educationally valid and interesting, however, to learn from objects can stimulate" learning (Caston, 1980, p. 22).

When objects are used as an educational medium a different kind of learning takes place. It could be called visual literateness. Newsom (1978) stresses the fact that the twentieth century education system emphasizes the importance of the library as a tool for learning, understanding and research. However, because such emphasis is not placed on real objects, individuals are unable to read museum artifacts and hence miss the knowledge they encompass (Newsom, 1978). Proctor sums it up when he states:

> Nothing has replaced and nothing will replace the impact of the real object, the experience of seeing, or better still of handling the actual piece made by or used by someone many

> years ago. Expression of the thrill that this experience gives is seen in the wonderful and varied work produced by children and by students, in their willingness to come back and find out more, or to go on elsewhere to discover further worlds of learning (UNESCO, 1973, p. 10).

The fifth theme deals with the interpretive potential of museum education programmes. Freeman Tilden (1982) defines 'interpretation' as:

> An educational activity which aims to reveal meanings and relationships through the use of original objects, by first hand experience, and by illustrative media, rather than simply to communicate actual information (p. 8).

Tilden goes on to say that "the chief aim of interpretation is not instruction, but provocation" (Tilden, 1982, p. 32). Gabriel Cherem states that interpretation consists of three components (Booth, Krockover & Woods, 1982, p. 7):

1. An on-the-site activity occurring in museums, historic sites, etc.
2. Informal education with a voluntary, non-captive audience.
3. A motivational rather than a factual approach.

Coen and Wright indicate that a medium of interpretation is required for all museum objects because "humans impart meanings to objects which can radically change their significance" (Coen & Wright, 1975, p. 283). Consequently, exhibits and programmes should be designed to communicate the chosen interpretation of the object.

Finally, of importance is the idea that "through museum education lifelong education habits can develop" (Herbert, 1981, p. 18).

From the six themes presented above, one could conclude that 'education' within a museum implies education which is individualized, discovery oriented, informal, non-compulsory, holistic, sensory oriented, participatory, object-based, interpretive and lifelong.

Kurylo (1976) sums up the purpose of museum education and the responsibilities held by a museum as follows:

> Thus the idea of museum education should be to foster the activity of thought and receptiveness as a complement and extension of other kinds of learning. Furthermore, as an institution which embodies the values of our society, part of the aim of museum education must be to take an active role in working out the problem of how these values relate to actual human behaviour (p. 21).

B. Learning Within the Museum Environment

Learning can be defined as a "hypothetical process that is not directly seen, but is inferred" (Ellis, 1978, p. 4) from changes in performance and/or behaviour. Howe (1980) suggests that there are three general characteristics of human learning (p. 16). First, learning is biological and expands human capacities. Second, it involves a number of other human abilities such as memory, perception, attention, and visual awareness. Finally, learning is a cumulative and permanent process which may be enhanced through practice.

Within the museum environment Lakota defines learning as "any measurable changes taking place within the visitor which can be directly attributable to the exhibit experience. These changes could include the acquisition of new knowledge, concepts, perceptual skills, or attitudes" (Communicating with the Museum Visitor, 1976, p. 249).

Both Howe's and Lakota's definitions of learning emphasize two factors: cognitive changes and affective changes.

The term cognition means knowledge. According to Ellis, it "emphasizes the symbolic, mental, and inferred (not directly seen) processes of humans" (Ellis, 1978, p. 3). These processes (changes) have been referred to as activities such as thinking, reasoning, knowing, remembering, reproducing, problem solving, and conceptual learning (Antrobus, 1970; Bloom, 1970; Ellis, 1978). Affective change on the other hand, refers to interest, feelings, attitudes, values, emotions, the development of appreciations, and behaviours (Bloom, 1970, p. 7).

Cognitive and affective changes can be categorized as separate entities. However, in reality they are "indivisibly intertwined" (Arnheim, 1969, p. v), in other words, they exist together (Arnheim, 1969; Bloom, 1970). In research the situation is different. Cognitive and affective changes can and are viewed as being independent

of each other. This independence also holds true within the museum environment.

According to Krathwohl, Bloom, and Masia (1964) research has demonstrated that cognitive and affective changes are not separate entities, rather, each affects the other. Krathwohl,et al. (1964) suggest that there are three sets of learning experiences where cognitive and affective outcomes occur simultaneously. The first set of learning experiences produces a high level of cognitive achievement and a dislike for the subject. The second set of learning experiences produces a high level of cognitive achievement and a great liking and interest for the subject. The third set of learning experiences produces low levels of cognitive achievement but a high degree of liking and interest for the subject. The authors also suggest that these various relations between cognitive and affective domains within a learning environment are also "determined by the learning experiences the students have had" (Krathwohl, Bloom & Masia, 1964, p. 86). Within a museum context this study will assume that these relationships may also be true.

C. The Museum as a Communication System

Many authors have discussed the importance of communication within the museum environment (Borun, 1978; Cameron, 1968b; Edwards, 1976; Parr, 1973; Pitman-Gelles,

1981, Screven, 1969, 1974a; Shettel, 1973; Washburn, 1975b, Wittlin, 1979).

Boulding (1966) states that museums "represent a highly strategic network of information processing and distribution centres by which developed images of the world can be spread" (p. 65). According to Boulding (1966) they occupy the interface between the humanistic and scientific community (p. 66), and therefore "have an important role in establishing communication across this gulf ..." (p. 66).

Both Boulding (1966) and Parker (1963) emphasize that because of their very nature, museums are forced to be concerned with methods of communication other than the printed word. Parker (1963) comments that museums occupy a strategic place in the twentieth century because "today's methods of communication have already taken their place beside the book" (p. 360). Boulding (1966) further comments that "there would seem to be a wide horizon of technological advancement in front of the museum not only in the use of the ear as well as the eye for the development of participant exhibits, the applications of programmed learning, and indeed the whole concept of the museum as a three-dimensional, constantly available learning facility" (p. 66).

Parker (1963) suggests that museums need to re-organize the presentation of their collections so that they will be more meaningful to twentieth century society.

"Every artifact has a multi-leveled meaning" (Parker, 1963, p. 355) which becomes increasingly more complex as other artifacts and verbal information are added. Parker emphasizes that museums should present concepts that will not only communicate with a contemporary audience, but will also communicate "the mental and emotional formulations of [the] particular culture" (p. 357) being represented. Finally, he points out that the key of communicating to the visitor does not lie in the facts themselves, but rather in the total presentation (information and artifacts) of those facts (Parker, 1963).

Unlike other communication systems, the museum depends on 'real things' as the media of communication. "It is this presentation of reality that distinguishes the museum as a communication system from all other systems" (Cameron, 1968b, p. 33).

Schramm (1954) states that communication always requires at least three elements - "the source, the message, and the destination" (DeVito, 1981, p. 3). The source may include an individual or a communication organization. The message may be in the form of spoken or written words, body gestures, objects, or "any other signal capable of being interpreted meaningfully" (DeVito, 1981, p. 3). The destination refers to an individual, or a group, or an individual member of a mass audience such as

"the reader of a newspaper or a viewer of television (DeVito, 1981, p. 3).

Schramm's basic model of human communication presented below, is the classic communication model which goes back to the first treatise on the subject, Aristotle's Rhetorica (Sless, 1981, p. 25).

Figure 2 has been removed due to the unavailability of copyright permission. It contained a diagram of Schramm's basic model of human communication from De Vito, 1981, p. 4.

Peart (1976) adapted Schramm's basic model to fit an interpretive situation. This communication model appears as follows:

Figure 3 has been removed due to the unavailability of copyright permission. It contained a diagram of Peart's communication model for interpretive planning from Peart, 1976, p. 23.

Applying these two models to a museum environment, the source/sender could be the museum, or the museum's communication design team, or the curator(s), or the interpreter(s). The message would be the ideas the source/sender is trying to convey through the use of an object(s), clothing, spoken and/or written words, body gestures and so forth. The destination/receiver would be the museum's audience or target population.

Schramm also points out that the human communication system is only as strong as its weakest link. In other words, if the source does not have adequate or clear

information; if the message is not encoded fully, accurately, or effectively transmitted; "if the message is not decoded in a pattern that corresponds to the encoding; and finally, if the destination is unable to handle the decoded message" (DeVito, 1981, p. 4), then, the system is not working efficiently. To exemplify the last point, Schramm notes that "the source can encode, and the destination can decode, only in terms of the experience each has had" (DeVito, 1981, p. 6). Schramm illustrates this in a more complex model of human communication.

Figure 4 has been removed due to the unavailability of copyright permission. It contained a diagram of Schramm's model of human communication from De Vito, 1981, p. 5.

The circles in the model represent the accumulated experience, field of experience, of the two individuals trying to communicate. If the circles have a large area in common, then communication is easy. If the circles do not meet, if there is no common experience, then communication is impossible. If the circles have only a small area in common, then it is going to be difficult to get an intended meaning or message across from one to the other (DeVito, 1981, p. 6).

Applying this knowledge to the museum environment it is evident that the more the source/sender and his message

have in common with the destination/receiver the easier it will be to communicate the message. In other words the greater the field of experience between museum and audience in terms of age, language, education, background, knowledge of topic, interest, and so forth, the easier it will be to communicate a message.

Schramm also states that "in any kind of communication we rarely send out messages in a single channel" (DeVito, 1981, p. 9). Messages are sent out in multiple channels of a primary and secondary nature. For instance, the primary message may be conveyed through a voice. However, facial expressions, body stance, and gestures all convey secondary information necessary for decoding and encoding this message.

In terms of a museum environment, the primary channel may be the object(s) on display, photographs, drawings, reproduction(s), the storyline, text on a panel, costumed interpreter, and an interpreter's voice. The secondary channel may be the placement of the object(s), the placement, size, and colour of the typography used, the colour scheme and textures used within an exhibit, the lighting used, an interpreter's body gestures and enthusiasm, mannequins and other auxiliary display material.

Because the museum depends on the non-verbal language of objects, photographs, and other visual materials as a

primary communication channel, the museum also depends on the observational skills of the onlooker to interpret the visual material appropriately (Edwards, 1976). Ruesch and Kees (1959) term this object language. Consequently, because of its very nature it is important for the museum community to have an understanding of the implications of this form of communication within their environment.

In his book Ways of Seeing, Berger (1972) states that "seeing comes before words. The child looks and recognizes before it can speak" (p. 7). Dondis (1973) comments that "the use of visual data to report information is the closest we can get to the true nature of reality" (p. 2). Berger (1972), Dondis (1973), and Ruesch and Kees (1966) have all remarked that visual information is the oldest record of human history which exists. As well as being the major transmitter of cultural heritage, visual information influences the continuity of knowledge from one generation to the next as well as being a primary source of information from one culture to another (Dondis, 1973; Sless, 1981).

According to Dondis (1973) we accept seeing as we experience it - effortlessly and consequently fail to improve or refine it as a communication tool. However, as a society we have a bias towards visual information to reinforce our knowledge primarily because of "the directness of the information, the closeness to the real

experience" (Dondis, 1973, p. 2). Dondis (1973) also notes that visual preferences are ingrained into the Western World because the population has been conditioned to perceive a three-dimensional world through flat two-dimensional media such as photography and painting.

Dondis (1973) states that "to see has come to mean understanding" (p. 7). However, "to see does not in any way guarantee the ability to make understandable, functional visual statements" (p. 108). Such understanding is only achieved if you know what you are working with and how to proceed (Dondis, 1973, p. 108).

In 1954, Dale developed The Cone of Experience for Cognitive and Affective Learning (Figure 5). Dale's (1954) Cone is best described as a visual presentation that explains the interrelationship of different types of audio-visual materials as well as their position in the learning process. Dale's Cone of Experience can be used to select messages that will promote cognitive and/or affective learning. It can also be used to select messages for specific age groups.

Travelling up from the base of the cone in Figure 5, represents movement toward increasing abstractness and decreasing concreteness of the message communicated. Therefore, "contrived experiences" is less concrete and more abstract than "direct, purposeful experience." Conversely, travelling down from the tip of the cone,

Figure 5 has been removed due to the unavailability of copyright permission. It contained Dale's Cone of Experience for cognitive and affective learning from Dale, 1954, p. 3.

represents movement towards increasing concreteness and decreasing abstractness of the message communicated. The divisions of the cone represent intermediate levels between the two extremes, "direct purposeful experiences" and "verbal symbols."

Wager (1975) notes that the greatest elements of reality are found in direct purposeful experiences and as each level becomes more abstract, elements of reality are lost. Peart (1982) states "it is important to recognize that increasing concreteness suggests increasing involvement of the audience" (p. 24). Direct purposeful experience can involve all the senses, seeing, hearing, touching, tasting, and smelling. Dale (1954) states and Peart (1982) reiterates that "the greater the sensory involvement the more effective and permanent the learning" (p. 26). Consequently, as the message communicated becomes more concrete there is an "increased opportunity for learning to occur" (Peart, 1982, p. 26). Conversely, verbal symbols, the most abstract message, bear "no physical resemblance to the objects or ideas they represent, nor can they be experienced with the senses" (Peart, 1982, p. 26).

Dale's (1954) Cone of Experience has been further developed to provide a conceptual framework for media selection for the cognitive domain (Figure 6) and the affective domain (Figure 7).

Figure 6, Media Selection for the Cognitive Domain, illustrates that media selection is dependent on the type of learner (naive/ sophisticated), the age of the learner, and the type of cognitive task (Wager, 1975). With regard to the cognitive domain, Briggs (1972), interpreted Dale's cone as follows: a) The levels which comprise the cone are related to the age of the learner. b) As abstractness increases, the time required to learn decreases. This has been termed "'potentially fast but risky' learning" (Wager, 1975, p. 10). c) Conversely, as concreteness increases learning time increases. This has been termed "'slow but sure' learning" (Wager, 1975, p. 10).

Figure 7, Media Selection for the Affective Domain, illustrates that media selection is dependent on the age of the learner, and whether the affective task involves establishing attitudes or changing attitudes. With regard to the affective domain, Wager (1975), interpreted Dale's cone as follows: a) The levels are related to the learner's age, "and the tasks of establishing or changing attitudes" (p. 10). b) To establish attitudes in adults or change attitudes in younger people "those at the top of the 'cone' will probably be more efficient" (p. 10). c) To establish attitudes in young people or change attitudes in adults, "enriched messages, represented by the lower levels of the 'cone,' will probably be most effective" (p. 10). Simonson (1978) mentions that the more concrete the media

used to deliver a message, the more likely a positive attitudinal outcome will result. Simonson (1978) equates an increase in the concreteness of media type with an increase in visual cues. Finally, Wager (1975) states that "the level of experience necessary to affect attitude change may not be the same level necessary to effect cognitive change, although attitude change involves a cognitive component" (p. 11).

In 1982 Peart used Dale's (1954) Cone of Experience to classify five exhibits which ranged from concrete to abstract in format. The purpose of Peart's (1982) study was to evaluate visitor's response to determine how five exhibit types affected knowledge gain, attitudinal change, attracting power, holding power, and interaction. His findings indicate that as the exhibit became more concrete, knowledge gain increased. He states, "exhibits that are concrete are more effective than those that are abstract" (Peart, 1982, p. 73).

Visitors' knowledge also increased as the clarity and conciseness of labels increased (Peart, 1982). Peart (1982) also found that exhibit type significantly affected visitor flow pattern and that a correlation existed between attracting power, holding power, and interaction. The results also showed that because people visit museums for enjoyment, as well as to learn, a balance between learning and enjoyment must be reflected in the exhibits (Peart,

1983). Heath (1983) concluded that "if a curator or exhibit designer wishes to emphasize a particular message, the exhibit should be a concrete exhibit type" (p. 74).

Any communication process, which stimulates one or more of the senses is cyclical in nature. In other words, the roles of the encoder and decoder are interchangeable. To accommodate the dual role of encoder/decoder as well as the cyclical nature of the human communication process and multiple channels referred to earlier, Schramm further modified his model as follows:

Figure 8 has been removed due to the unavailability of copyright permission. It contained a diagram of Schramm's more complex model of human communication from De Vito, 1981, p. 8.

The cyclical nature of the communication process within the museum environment could be considered the understanding acquired and feedback given by the museum audience. Schramm (1954) indicates that feedback is an essential element of the human communication process because it tells how messages are being interpreted. It also tells a museum how appropriate their messages are for

their audience. Barker (1978) defines feedback as "a message that indicates the level of understanding or agreement between two or more communicators in response to an original message" (DeVito, 1981, p. 148).

Feedback is one method of evaluating within the museum's communication system. Cameron states that the "function of feedback is to enable the exhibitor to modify and improve the effectiveness of his communication" (Cameron, 1968b, p. 37). Likewise Borun states that:

> The museum visitor can be seen as part of a special communications system in which he is the recipient of messages from staff through the medium of the exhibit. In order to know whether or not the message has been received and understood, the museum must complete the communication process by providing feedback channels for visitor response (Borun, 1978, p. iv).

D. Exhibit and Programme Planning and Evaluation

Borun notes that "it is the responsibility of the museum to choose and formulate its message; but it must look to the public for information as to whether or not this message is being received" (Borun, 1978, p. v). Another source states that "it does not suffice merely to assume that displays intended to stimulate comparisons have had that effect; they may have had unintended consequences or no consequences at all" (Henle, 1976, p. 10).

Awareness on the part of the museum in terms of: a) an exhibit or programme's communicative ability; b) the message being received by the audience from the exhibit or

programme; and c) the audience's interpretation of that message, requires a response from that audience. One method of obtaining audience response is through exhibit/programme evaluation.

Screven defines evaluation as "the systematic assessment of the value (worth) of a display, exhibit, gallery, film, brochure, or tour with respect to some educational goal for the purpose of making decisions" (Screven, 1976, p. 273).

According to Dyer (1980) and Weiss (1973), the primary task of evaluation research is to "measure the effects of a program against the goals it set out to accomplish as a means of contributing to subsequent decision making about the program and improving future programming" (Weiss, 1973, p. 4). Within a museum context then, one attempts through evaluation research to measure the effectiveness of an exhibit or programme against the exhibit/programme's goals in terms of the exhibit/programme's ability to communicate the desired message to the target population. Such evaluation is commenced as a means of improving existing exhibits and programmes or aiding in decisions concerning new exhibits or programmes.

Shettel concludes that "one can measure an exhibit's ability to communicate and that such information could be used to improve the effectiveness of that exhibit" (Shettel, 1973, p. 36). Shettel also states that "well

designed and articulated evaluation studies must be built into the entire development cycle and not be added on as an after thought" (Communicating with the Museum Visitor, 1976, p. 198). Screven reiterates Shettel in the following comment:

> If you wish to communicate (change) with the museum visitor, you must first decide what you wish to communicate and how it will be reflected in measurable behavior. If you do not do this, you not only cannot evaluate whether you are communicating anything, you also cannot design into the exhibit the kind of visitor interaction with the exhibit that is essential if communication is to occur at all[1] (Washburn, 1975b, p. 216).

Both of these sources indicate that effective communication will only occur if behavioural objectives (cognitive and affective) are formulated during the early stages of planning.

Exhibit and programme planning involves the organization of many factors such as budget, supplies, human resources, location, space, traffic flow, and so forth. Other factors such as the purpose of the exhibit or programme, the target population, the cultural context, the message the exhibit/programme wishes to communicate, specific learning objectives which include measurable cognitive and affective objectives, as well as method of

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[1]From the text of a paper given by Screven for Proceedings of the Seventeenth Annual Southeastern Museum Conference, Norfolk, November 1968. The above quote does not appear in this form in his revised 1969 article.

presentation, are extremely important to consider while planning and evaluating the success or failure of an exhibit or programme.

This study will consider one method of approaching exhibit planning and evaluation which was used by Andrews (1984). In this method, referred to as the goal-referenced approach, evaluation is built into the planning stages. This approach will be discussed thoroughly below.

Goal-Referenced Evaluation

According to Screven the goal-referenced approach "evaluates exhibits in terms of their intended goals and, if necessary, adjusts their design until the goals are attained" (Screven, 1976, p. 275). This approach has been used by many sources to evaluate exhibit effectiveness (Brown, 1979; Eason & Linn, 1976; Screven, 1976; Shettel, 1973).

In goal-referenced evaluation the focus is on "measurable learning or performance outcomes shown by visitors as the result of exhibit exposure" (Screven, 1976, p. 273). In other words, it looks at visitor performance in response to the exhibit. It also states objectives as very specific behavioural objectives or learning outcomes (Brown, 1979; Screven, 1974a, 1974b, 1976). When specified, objectives are stated in terms of "things that the visitor is supposed to do (name, select, list, order,

identify, state, match, compare) under certain conditions" (Screven, 1976, p. 278).

Screven divides these objectives into three categories of learning outcomes based on Bloom's (1956) and Krathwohl, Bloom, and Masia's (1964) work in developing taxonomies of educational objectives. Cognitive outcomes, which deal with learning specific information include "facts, cause-effect relationships, concepts, principles, and so forth" (Screven, 1976, p. 278). Affective outcomes include "attitudes, sensitivities, preferences, values, approach-avoidance tendencies, etc." (Screven, 1976, p. 278) and "might include visitors having 'positive' reactions to a visit as well as changes in attitude or value toward the topic of the exhibit" (Screven, 1976, p. 278). Finally, sensory motor skills such as "using a microscope or telescope, weaving, ..." (Screven, 1976, p. 278) are identified by Bloom, however Screven (1976) states that they "would be relatively uncommon in most museum situations" (p. 278). It is important to note however, that some of these skills are applicable to participatory programmes developed for children within a museum or historic site environment, and consequently should not be disregarded when appropriate.

Figure 9 shows a simplified flow chart developed by Screven to aid in explaining goal-referenced evaluation.

It is important to note that this chart is pertinent to programme as well as exhibit development.

Figure 9 has been removed due to the unavailability of copyright permission. It contained Screven's flow chart for goal-referenced evaluation from Screven, 1976, p. 274.

Two different types of evaluation are possible in the goal-referenced approach: formative evaluation and summative evaluation. Many sources include these two forms of evaluation in their research (Brown, 1979; Eason & Linn, 1976; Screven, 1976; Shettel, 1973, 1978).

According to Brown (1979), formative evaluation "involves data gathering undertaken for the purpose of providing diagnostic feedback to the design team - feedback which will be used to further shape the final form of the exhibit or environment" (p. 7). This method is incorporated into the planning and construction stages of a new exhibit or programme when change and improvement are still possible. However, it is also useful when revising and improving existing programmes or exhibits. According to some sources, this type of evaluation is "critical for the success of interactive exhibits" (Eason & Linn, 1976, p. 46) and is "used to change and improve elements of the

exhibit to achieve its intended effects on visitor learning and performance" (Screven, 1976, p. 274).

Some researchers have noted the importance of formative evaluation in producing improvements in an exhibit or programme's communicative potential (Brown, 1979; Eason & Linn, 1976; Screven, 1974b, 1976; Shettel, 1973). Eason and Linn (1976) stress that "formative evaluation should also be an ongoing aspect of exhibit design" (p. 60).

Summative evaluation takes place at the end of a programme or "after an exhibit is installed and the results establish its overall effectiveness with respect to the original goals" (Screven, 1976, p. 274). This form of evaluation is used to determine whether an exhibit or programme is communicating what was intended. It also provides a basis for deciding whether the exhibit or programme should be continued, revised, improved, and so forth (Kidder, 1981; Screven, 1976). It is important to note that although it may be too late to improve an existing programme or exhibit after summative evaluation is completed, it does help to determine whether a specific exhibit or programme approach should be repeated in future (Screven, 1976).

In the goal-referenced approach there are several methods of evaluation available for collecting data.

Tracking, observations, video, questionnaires, tests, interviews, and mock-ups are a few of these methods.

Through the goal-referenced approach, exhibits and programmes are evaluated in terms of very specific behavioural objectives or learning outcomes. In other words, evaluation measures predetermined cognitive and affective outcomes. However, as Screven (1974b) notes: "the performance of the visitors themselves validates the exhibition methods - not professional exhibit designers, educators, curators, or psychologists" (p. 12). In the final analyses the visitors establish "whether or not these efforts [the professional's] have been successful or need to be modified" (Screven, 1974b, p. 12).

E. Use of Reproductions Within a Museum Environment

A museum's collection represents a cultural resource which is held in "the public trust" (Berck, 1983, p. 24) by the institution. The museum has the responsibility of using it wisely and carefully while taking into account the goals and objectives of the institution as stated in its mandate. These goals and objectives usually include the use of the collection for research and education purposes while ensuring its continued existence through proper care and protection (Berck, 1983; Neustupny, 1968). Both Berck (1983) and Neustupny (1968) comment on the museum's obligation to make it's collection physically accessible to the public. However, they also note that such access is

often hindered by conservation and security limitations. Precious artifacts which have cultural significance are rarely, if at all, exhibited under conditions which take into account environmental and security precautions (Royal Ontario Museum [ROM], 1982, p. 30). Although such precautions ensure the artifact's safety, they hinder the artifact's accessibility to the public. Berck (1983) states that "if a piece is important enough to preserve, document, and study, it is probably important for the public to see it" (p. 24). Some authors feel that a reasonable solution to such a dilemma is through the use of an "excellent reproduction" (Berck, 1983, p. 24; Neustupny, 1968). Berck (1983) defines an excellent reproduction as one "which will give a true sense of the object: reproductions which the average, naked eye will not be able to distinguish from the authentic piece" (p. 24). Neustupny (1968) states that "reproduction techniques and methods have reached such a degree of perfection and diversity that the appearance of copies comes very close to that of originals" (p. 93).

In the Royal Ontario Museum's (1982) statement of principles and policies on ethics and conduct, it states that "the museum's responsibility to function as an education institution is one of the principle reasons for its existence" (p. 30). It is committed, therefore, to provide "reasonable access to its collections in a way that

will ensure their safety without diminishing their accessibility" (ROM, 1982, p. 30). Conversely, Neustupny (1968) indicates that a museum's collection should represent source material for either research or educational purposes. He states that if a museum's objective is to serve both research and education then, "the character of a museum's collection should depend in the first place upon the requirements of research. Education comes second" (Neustupny, 1968, p. 90). Neustupny (1968) notes that by putting education requirements second, reproductions could be used extensively for education and travel purposes. The reproduction allows for increased public access "to the message which the object carries" (Berck, 1983, p. 24) while preserving the original for scholastic and research purposes, as well as for future generations (Berck, 1983; Neustupny, 1968).

Berck (1983) reiterates Neustupny when she notes that it is unwise to assume that the educational function of a museum must be based on the same collection as that of research. "It is an error to act as if all these functions require what we refer to as 'the real thing,' the authentic artifact" (Berck, 1983, p. 24). Berck (1983) also mentions that if a teaching collection exists, it is generally a second rate collection used with programmes designed for school children. She notes that the use of quality

reproductions in the teaching collection is far more beneficial than the use of a second rate collection. The use of reproductions provides children with a meaningful first hand experience with objects in an atmosphere which is oriented towards discovery learning. Use of reproductions also alleviates a number of questions Barkley (1980) raised concerning the use of original artifacts to provide first hand experiences for children. The questions are as follows:

1. Does a museum forfeit it's responsibility to preserve objects in order to maximize its educational/ interpretive role?
2. Does a programme oriented towards discovery learning put objects at risk?
3. Is the use of original artifacts an admission by the curator or the museum that these objects are expendable?
4. Are objects expendable for educational purposes?
5. Does the use of real artifacts teach the participants that museum objects are expendable, especially for the purposes of education? (p. 9, 10).

Barkley (1980) also states that "allowing museum objects to be destroyed because they have no value today may be viewed as an act of vandalism tomorrow" (p. 10). Conversely, Herbert (1980) states the following:

> Despite the implications for conservation, objects prompt multi-sensory explorations,

> and it is our responsibility as educators to exploit this quality. We must think in terms of what would be the best use of the collections from an educational standpoint and leave it to the curators to tell us what is possible without endangering them. Otherwise we limit our educational vision (p. 34).

Hence, the use of quality reproductions could be mutually beneficial to both museum curators, conservators and museum educators.

There are also a number of other advantages concerning the use of reproductions that have been noted. Berck (1983) mentions that conservation and security costs are reduced, worry about environmental controls is removed, and the public has better visual access through the use of higher light levels.

The use of reproductions also has the advantage of allowing a great deal of freedom when designing exhibits and programmes. A more comprehensive and accurate exhibit or programme can be achieved if reproductions are used to complement the existing collection (Berck, 1983; Cooper Cole, 1985; Neustupny, 1968). As well, those areas of history which lack representation through the use of original artifacts, can be portrayed through the use of reproductions (Berck, 1983; Cooper Cole, 1985; Neustupny, 1968).

Artifacts which through age, wear, or damage portray a misleading impression to the visitor can be substituted with a reproduction (Berck, 1983; Cooper Cole, 1985;

Neustupny, 1968). Neustupny (1968) notes that original artifacts which present problems if they are to be exhibited because they are either too small for proper viewing or too large to be displayed due to lack of space, can be represented through the use of appropriately sized reproductions. He states that museums are justified when including reproductions, "copies, models, reconstructions and similar materials" (Neustupny, 1968, p. 91) in their programmes and exhibitions when attempting to communicate an honest, accurate, comprehensive, and complete message to the public.

The literature also notes a number of disadvantages which require consideration when looking at the use of reproductions within a museum environment. Some museum authorities criticize the use of reproductions because they question the communicative effectiveness of the 'real object' versus the facsimile. Cameron (1968b) addresses this point in the following statement:

> The answer here does not lie in the relative effectiveness of the communication, for one can cheat and fool the child. The difference lies in the fact that the real thing will mean something different to the child. The message that can be communicated through the real thing is of a different order from that which can be communicated through the facsimile or image (p. 34).

However, those who discuss the merits of using reproductions also make it clear that their use is not to be disguised from visitors. Nor do they "believe that the

public cannot tell the difference, or that they do not care" (Berck, 1983, p. 24; Cooper Cole, 1985; Neustupny, 1968). Rather, there lies the conviction "that the museum has the responsibility to make physically, visually, and intellectually accessible its collections and the information which the collections impart" (Berck, 1983, p. 29). In other words, learning about an object should not be ignored because the original is not available. Berck (1983) states that "perhaps one of the things to be learned is the shifting distinction between what is the real thing and what is a copy" (p. 29).

Cooper Cole (1985) mentions that a reproduction has less associative meaning, and it is this meaning that attracts people to an original object. It should also be noted that the author was unable to find published research, specifically quantitative data, which dealt with the communicative effectiveness of real objects versus reproductions. Hence, some of the statements which negate the use of reproductions may just be conjecture. However, Berck (1983) notes that

> There are, indeed, some authentic articles which have about them an aura that strikes awe in the viewer; there are also a great many authentic articles whose importance is historic, rather than artistic, and which are capable of striking awe in only the most knowledgeable scholar (p. 28).

The literature also notes that the use of reproductions, especially for exhibition purposes, may jeopardize a museum's status.

> The concern to own and exhibit "the real thing" comes less from a belief about the essence of an object and more from attitudes about a museum's status, for a museum acquires status by having in its collections precious material. Preciousness is determined by the high price paid for the objects (Berck, 1983, p. 28).

If good reproductions of an artifact are too plentiful, museums fear the original will have a reduced market value (Berck, 1983). However, use of reproductions within the context of the museum gift shop, along with the revenue gained from the sale of reproductions is looked upon favourably (Berck, 1983).

In conclusion, the following statement made by Berck (1983) concerning the importance of reproductions when original artifacts have deteriorated beyond repair while in the museum's possession, will be noted: "The object which had been created as a copy becomes the only evidence of the original" (Berck, 1983, p. 29).

Costume Reproductions

Current literature available which deals with the use of historic costume reproductions within a museum environment is scarce. That which does exist tends to focus on the process involved in the production of costume reproductions such as researching, pattern production

methods, and materials used for the garment's construction. Most often this process is related to costuming a specific site(s) or a specific period (Blackstock, 1982, 1984; Great Plains Research Consultants, 1983; Razzolini, 1982; "Researching Historic Costumes," 1983; Severa, 1979, 1980). There are also a few articles available that discuss the philosophical and ethical considerations which must be addressed when using costume reproductions within a museum environment (Blackstock, 1982; Cooper Cole, 1985; Irving Wright, 1977; Severa, 1979). Such considerations include whether the use of the costume reproductions evokes the same response as the original garment, the acceptable degree of authenticity between the original garment and its sister reproduction, and the decision making process and inevitable compromises made during the reproduction's production period.

Within a museum environment it is possible to use historic costume reproductions in didactic exhibits, restored rooms on display, as an educational tool in period animation programmes, for special programmes such as school extension programmes, special event days at historic sites, and to clothe interpreters who work at historic sites. In all but the last case original garments could be used depending on their availability, condition, and the institution's mandate. However, it is accepted among museum professionals that original garments are never to be

tried on and/or worn (Blackstock, 1982; Cooper Cole, 1985; Severa, 1979). Consequently, the provision of suitable costumes for interpretive use becomes extremely important. Blackstock (1982), Irving Wright (1977), and Severa (1979) indicate that once in costume, interpreters become living history, part of an historic environment wnich most visitors seem to enjoy. They stress that when constructing a reproduction, authenticity must be strived for. Authenticity ensures that the public is receiving the correct information. Regardless of the degree of accuracy, the public will view the costume as the truth (Blackstock, 1982; Severa, 1979).

There are three areas cited throughout the literature where authenticity must be achieved. First, to be considered is how accurately the costume reproduction represents the period of the site. Questions to be addressed are as follows: Will the costume misrepresent the period?; Would such a costume have been worn at the site during the interpreted period?; Is the costume appropriate for the occupation of the individual the interpreter is portraying?; and Is the costume appropriate for the time of day it is to be worn? (Severa, 1979). In other words, there must be authenticity between the costume being worn, the role the interpreter is playing, the location of the site, and the interpreter's location within the site.

The second consideration deals with the production of the costume. One author states that because visitors are within touching distance of the interpreter "costumes must be faithful reproductions of period garments" (National Park Service [NPS], 1980, p. 203). They "must duplicate original garments in cut, workmanship, and material" (NPS, 1980, p. 203). Irving Wright (1977) notes that visitors are becoming more knowledgeable and consequently increasingly aware of the costume reproduction's style, fabric, and mode of construction (p. 22). She states that "the more accurate each stage in the construction is, the more value the costume will have as an educational object in itself" (Irving Wright, 1977, p. 22). However, it is during the production phase that compromises regarding garment cut, fabric(s), trim(s), notion(s), accessory(ies), and period construction techniques result due to lack of one or more of the following: research, money, time, human resources, availability of supplies and/or equipment (Blackstock, 1982; Severa, 1979). With these constraints Arnold (1980) and Blackstock (1982) also note that contradictions are inevitable because of influence from today's artistic sense, ideas of 'good taste,' 'good design,' and 'acceptable proportions,' social mores, and modern technology which, no matter how subtle, affect every decision required when producing an historic costume reproduction.

The final consideration deals with the deportment of the historic costume reproduction while being worn by the interpreter. Although an appropriate silhouette can be partially achieved by the style and cut of a garment, it can not be fully realized unless appropriate undergarments are donned and the interpreter's carriage is appropriate for the period. Compromises are often made when considering the use of structural undergarments due to the cost and the health of the interpreters (Blackstock, 1982; Irving Wright, 1977; Severa, 1979). Likewise, deportment is often neglected due to lack of research expertise and time during interpreter training sessions. Precise information is not relayed to the visitor simply because an interpreter is clothed in a period reproduction. The interpreter's posture, way of moving, way of sitting, mannerisms, speaking voice, hairstyle, and makeup will all influence the credibility and hence the educational potential of the costume worn (Blackstock, 1982; Irving Wright, 1977). In this regard many sources (Blackstock, 1982; Irving Wright, 1977; Razzolini, 1982; Severa, 1979, 1980) have emphasized the balance required between costume production and research information. The latter is required to help the interpreter feel comfortable and to give the interpreter's role clarity and preciseness. Blackstock (1982) notes that "an accurate reproduction may not tell the whole story because the researcher has failed

to either dig deep into available information sources or relay important information to the interpreter" (p. 12). Consequently, the literature indicates that accurate research is just as important to the success of a costume and the role of the interpreter, as an accurate costume reproduction.

Use of Costume Reproductions in Children's Programming

Reference to the use of costume reproductions in children's programming is mentioned occasionally throughout the literature (Alexander, 1974; Arnold, 1978; Booth et al., 1982; Carter & Boyer, 1982; DES Survey, 1971; Franco, 1979; Gerlach, 1981; Harrison, 1967, 1970). In the majority of cases costume reproductions are used as a vehicle for learning through the act of dressing up. Franco (1979) refers to two costume activities which were part of an exhibit on archival material. The first, involved looking through a peephole and seeing one's face reflected in a mirror with a life size photographic figure of Elizabeth I or Sir Francis Drake. The second, involved trying on apron-fashion costumes so that the children could see themselves and experience the textures, weight, and shapes of Elizabethan clothing. This participatory activity received favourable comment from the children involved. "We all tried on clothes and had great fun while doing it" (Franco, 1979, p. 58). Arnold (1980) and Harrison (1967) refer to the enormous educational potential

which exists when costume and costume reproductions are used in children's programming. Costume can be used to show the relationship between clothing, availability of materials, geographical factors, climatic conditions and nutritional habits. Costume can be used to show how it reflects societal mores, social background, economic status, specific group identification, and nationalism. Similarities and differences between two or more cultures, or between various historical periods can be illustrated. As well, the interrelationship of the designs of dress, furniture, architecture and art can be shown.

Arnold (1980) states that the use of costume is most beneficial for children ages 8 - 13 years because they are beginning to get a sense of historical perspective which is first established through "a visual understanding of how people looked in the past" (p. 172). For this reason many authors (Arnold, 1980; Blackstock, 1982; Booth et al., 1982; Harrison, 1967) have emphasized the importance of using accurately constructed reproductions for programming purposes. Fashion fabric, trims and notions must be chosen so they reflect materials which would have been used in the past in terms of weight, design, colour, fibre content, and hand. As well, method of fastening, weight, and proportions of the garment must be as accurate as possible because this helps children "understand a great deal more about their predecessors ..." (Arnold, 1980, p. 172).

"The past becomes alive as they realize the difficulties of managing hooped petticoats when sitting down or trying to run" (Arnold, 1980, p. 175). Often though, costume reproductions made for children incorporate time saving devices that allow for easy access into the costume and unrestricted movement. Examples of these are zippers, velcro, and ties that enable the costume to be put on in an apron fashion (Arnold, 1980; Franco, 1979). Arnold (1980); Blackstock (1982); Booth, et al., (1982); and Harrison (1967) have all noted that the less accurate a costume is, the less educational value it has.

Gerlach (1981) mentions a number of organizations that have used costume reproductions effectively as an educational aide for "live-in" programmes and role-playing programmes. However, he also indicates that the successful planning and execution of a programme requires clearly defined educational objectives. Without which planned activities and programmes are meaningless. No mention is found in the literature of the effect the indirect use of costume reproductions (costumed interpreter(s)) have on children.

III. METHODOLOGY

This chapter includes the theoretical framework of the study, the selection of the sample, the sampling procedure, and a description of the data collection instruments and methods of data analysis.

A. Theoretical Framework

The methodology of this study was adapted from three research areas. The first two, basic communication theory and a goal-referenced approach to evaluation, are related areas of research frequently used within the museum community. The third, Dale's Cone of Experience for Cognitive and Affective Learning, is more commonly used within the formal education system and those organizations involved in communications.

The basic structure of this study was based on the Shannon-Weaver Model (Peart & Woods, 1976, p. 22; Schramm, 1954, p. 5), a classic model of communication (Figure 10). The model was adapted by Schramm (1954) to illustrate a more complex model of human communication. Although his more recent works do not incorporate the Shannon-Weaver Model, Peart (1976) adapted the communication model as a framework for interpretive planning. Peart's (1976) communication framework, referred to as the S-M-R Model (Figure 11), is currently used by the Canadian Wildlife Service Interpretation Programme as a framework for all

their interpretive plans, display design, and programme development. The S-M-R Model has also been adopted by Parks Canada as their basic planning framework (Peart, 1976, p. 24).

Figure 10 has been removed due to the unavailability of copyright permission. It contained a diagram of the Shannon-Weaver model of human communication from Peart and Woods, 1976, p. 22 and Schramm, 1954, p. 5.

Figure 11 has been removed due to the unavailability of copyright permission. It contained a diagram of the Sender-Message-Receiver (S-M-R) model of communication from Peart and Woods, 1976, p. 23.

Peart (1976) supports the S-M-R Model as a valuable planning resource for the following reasons:

1. It simplifies and illustrates the components of the communication process and assists in the logical development of ideas.
2. It is valuable as a framework at all levels of planning. This includes national and regional planning as well as programme planning which may

involve producing pamphlets, designing exhibits, and organizing the day to day interpretive programmes and special events.

3. It requires that all aspects of the communication process be considered simultaneously. This means that interaction between the model's component parts must be articulated, and no component of the process, such as feedback, can be ignored.

This study, built on the S-M-R Communication Model, focused on reason 3 as described above. The interpreter comprised the message sender, and the children the message receivers. The study examined the children's response to determine if and how the message was received. In other words, the study focused on measuring the feedback given by the children.

The researcher incorporated the goal-reference approach to evaluation advanced by Screven (1976) to measure the children's feedback. This approach, adopted by many researchers (Andrews, 1984; Borun, 1977; Brown, 1979; Eason & Linn, 1976; Shettel, 1973), evaluates exhibits and programmes in terms of specific goals. These goals, stated as behavioural objectives, are translated into measurable visitor responses so that cognitive and affective outcomes can be measured (see Appendix C).

In the goal-referenced approach two forms of evaluation are possible; formative evaluation and summative

evaluation. This study was summative in nature because it served a post-completion function. The programme had already been completed and consequently could not be altered to increase its communicative potential. However, this form of evaluation will determine the success or failure of the programme in communicating the desired message to the children, and hence will establish a knowledge base from which decisions regarding future programming can be made.

The structure of this study was also based on Dale's Cone of Experience for Cognitive and Affective Learning (Dale, 1954) (Figures 5, 6, 7). Dale's Cone could be described as a visual presentation which explains the interrelationship of different types of audiovisual materials as well as their position in the learning process. The Cone of Experience can be used to select messages that will promote cognitive and/or affective learning for specific age groups.

Simonson (1978) and Wager (1975) indicate that media which fall midway between abstract and concrete on the Cone of Experience are moderately effective in promoting cognitive and affective learning. The participants in this study received messages from media which fell into two different levels on Dale's Cone. At a more abstract level, the participants received visual and verbal information from a slide show presentation. At a more concrete level,

the participants received verbal information from a trained interpreter while participating in a programme which provided concrete information and experiences through the use of artifacts and objects while in a historic building known as the Clerk's Quarters. The Clerk's Quarters has been furnished so as to recreate the living environment adopted by the last clerk at Fort Victoria. The purpose of this environment is to create awareness, understanding, and knowledge through direct experience.

In order to measure the children's feedback, the researcher has drawn from a number of learning studies which measure the effect exhibits have on knowledge gain and attitude change. Learning studies, which have been used for evaluation since the late 1960's, are frequently conducted in conjunction with behaviour studies which measure attracting and holding power. However, because this study measured visitor feedback to a programme presented by an interpreter rather than a stationary exhibit, attracting and holding power were not measured.

To measure the participants' cognitive responses (knowledge) to the programme presented at the Victoria Settlement, an objective test was administered. Andrews (1984), Parsons (1965), and Peart (1982) have all used an objective test to study subjects' cognitive responses to exhibits. To measure the participants' affective responses a combination of Likert scales and open-ended questions

were administered. It has been found that using a Likert scale is an effective way to measure subjects' affective responses (Borun, 1977; Peart, 1982). Because the sample consisted of children, simpler word variations that had meaning to the participants were used. Although Parsons (1965) used an opinion questionnaire to measure visitors' affective responses to an exhibit, comments have been made regarding the difficulty subjects may have when trying to verbalize their feelings in such tests (Borun, 1977; Rubenstein, 1982). In this study however, the open-ended questions were related to a specific concept previously addressed with each Likert scale. Open-ended questions were used in this instance to validate the Likert scale responses without biasing the participants.

B. Selection of the Sample

The sample consisted of all grade four and five classes booked to visit the Victoria Settlement during the month of June, 1987. Using all grade four and five classes rather than randomly selecting a sample from the total population of these classes was necessary to obtain an adequate sample size. All the teachers contacted agreed to participate in the study, therefore the sample size obtained was the maximum possible.

The sample consisted of classes who were first-time visitors to the Settlement. First-time class visitation was determined by the researcher when talking to the

contact teacher in advance. In addition, only those children who were first-time visitors to the site were counted in the sample. On an individual basis, first-time visitation was determined by the children's response to a specific question in the pretest questionnaire which dealt with previous visitation. Questionnaires completed by children who had visited the site before were rejected from the sample. First-time visitation as a sampling criteria is necessary. Subjects who have visited the site before will respond differently than those visiting for the first time because they have prior knowledge. Both Lakota (1976) and Peart (1982) employed first-time visitation as a sampling criteria in their research. Peart (1982) states that "the screening out of return visitors reduced the variance of the experimental groups and thereby reduced the possibility of a Type II statistical error" (p. 43).

Only those classes who spoke English were included in the sample. This was an important criterion because the successful completion of the questionnaire depended on the participants' ability to read and understand the English language.

All the class groups who participated in the study conversed in English. Any deviation from this norm would have been noted by the individual recording the bookings for the site. It should be noted however, that some of the

participants did speak another language such as French, Ukrainian and Cree.

A purposive sample was used so that the classroom groups were as equivalent as possible. The sample was purposive in that the classroom groups selected included only grade four and five classes, who were English speaking and visiting the Settlement for the first time. On an individual basis the sample was purposive because only those questionnaires completed by children between 8 and 12 years of age, who were English speaking and visiting the Settlement for the first time were included in the sample.

The selection of the sample was carried out prior to the data collecting process. The teachers of all the grade four and five classes registered to visit the site were contacted and asked if their class might wish to participate in the study. If the response was positive, the necessary procedures required to obtain permission were completed (Appendix F).

C. Sampling Procedure

Upon arriving at the Victoria Settlement, each class participating in the study was requested to enter the side door of the Pakan United Church (see Appendix B) in single file. As they entered, each child received a clipboard. Because the number of children in each class group was previously known, the researcher was able to set aside the appropriate number of clipboards. Ordering of the

clipboards for distribution to the children was determined through the use of a random numbers table. The clipboards were assigned in this numerical order to the children as they entered the church. The purpose of randomly assigning the clipboards was to achieve random assignment of students to the Costume and Uniform Groups. The clipboards were numbered and colour coded. Attached were the pretest, a manila envelope with the enclosed posttest, a name tag, and a pencil. The number and colour assigned to each clipboard was also recorded on the pretest, posttest, manila envelope, and sticky name tag. After the children were seated they wrote their names on the tags and affixed the tags to their clothing. They took note that the number and colour recorded on their name tag was exactly the same as that recorded on their clipboard and attached papers.

The purpose of using a number and colour coding system was as follows. Because the children were to leave their clipboards in the church while participating in the tour, the numbering system provided a means of matching each child to his/her appropriate clipboard. This way, the children's pretests and posttests remained together and their anonymity remained protected. When the children returned to the church to complete the posttest, they reclaimed their clipboards by making sure the number on the clipboard matched the number on their name tag. Numbers 01 - 50 constituted the group that saw the costumed

interpreter, while 51 - 100 constituted the group that saw the uniformed interpreter.

The colour coding system divided each class into two groups. Those children with a green dot constituted the group who saw the costumed interpreter (numbers 01-50), those with an orange dot saw the uniformed interpreter (numbers 51-100).

Because the formal school tour consisted of two parts, the slide show presentation conducted inside the Church and the programme conducted inside the Clerk's Quarters (see Appendix B), one group watched the slide show presentation while the other group participated in the latter programme with the interpreter dressed in either costume reproductions or uniform. After each group finished its respective programme, they switched.

Because the number of children participating in each tour was known in advance, it was decided that one quarter of the total sample would view the costume reproductions first, and one quarter of the total sample would view the uniform first. The remaining half of the total sample would view the appropriate alternative clothing. This procedure controlled for any variability in the children's responses due to the order in which they participated in the interpretive programme. Exposure to the interpreter dressed in either the costume reproductions or uniform did

not commence until each group had arrived at the Clerk's Quarters.

For security purposes, one adult was required to accompany approximately every 10 children to that portion of the programme which was held at the Clerk's Quarters. Because the Clerk's Quarters has two floors, the second of which can only support approximately 10 people at one time, the adult remained on the main floor of the building to chaperon the children who were not involved in the interpretive programme on the second floor. The researcher requested that the adults who accompanied the children observe and not interact with them.

Pretest

All the classes who participated in the study completed the pretest questionnaire in the Pakan United Church before commencing with the formal school tour. The pretest took approximately six minutes to complete, after which, each class was divided into the two groups determined by the colour coding system.

Posttest

Data for the posttest were collected by the researcher after the randomly assigned groups had completed the programme at the Clerk's Quarters and viewed the slide presentation. All participants completed the posttest questionnaire in the Pakan United Church.

The posttest took approximately ten to twelve minutes to complete.

D. Description of Interpretive Programme

The interpretive programme consisted of two parts. One part, a slide show presentation, focused on the development of the Victoria Mission and the Hudson Bay Company's trading post Fort Victoria. The slide show portion of the interpretive programme was conducted at the Pakan United Church (Appendix B). The other portion of the interpretive programme, conducted at the Clerk's Quarters (Appendix B), focused on the life of the last clerk at the Fort. The interpretive date for the Clerk's Quarters is 1895.

Throughout the entire interpretive programme the Costume Group and Uniform Group were exposed to verbal and visual information concerning the history of the settlement. Verbal information was presented to the two groups via the slide show commentary and the interpreter. Visual information was presented to the two groups through the slide show, the site, the artifacts used to furnish the Clerk's Quarters, the photographs used as illustrative materials by the interpreter, and the interpreter's mode of dress.

Both the Costume Group and Uniform Group were exposed to visual examples of appropriate period dress for men and women, by the slide show, by the photographs the

interpreter showed and by two artifacts (a c1895 white cotton dress and brown mohair shawl), both displayed in the bedroom of the Clerk's Quarters. The Costume Group was also exposed to an example of how women dressed in 1895 by the costume reproductions worn by the interpreter (Appendix A). The costume reproductions the interpreter wore are representative of those worn by all female interpreters at the Victoria Settlement.

The Uniform Group was exposed to the interpreter dressed in the Alberta Culture Uniform (Appendix A) rather than the costume reproductions. This uniform is worn at the Provincial Historic Sites when the interpreters are not dressed in costume reproductions.

It is important to note that all the information relayed to the two groups regarding appropriate dress for 1895 was given in a visual format. Neither the slide show or interpreter discussed what men and women wore in 1895.

E. Description of Instruments

The Description of Instruments is presented in the following manner: demographic questionnaire, objective pretest, objective posttest, and affective questionnaire. The instruments are located in the Appendices.

A discussion of the pilot study carried out before the implementation of the instruments is found at the conclusion of this section.

Demographic Questionnaire

The demographic questionnaire was designed to collect data relating to the children's age, sex, grade, and prior attendance at the Victoria Settlement. This information was necessary to determine first time visitation and age of the subjects. This information was also necessary for purposes of providing a comparative profile of the different classroom groups participating in the study.

Although the author was unable to find a demographic questionnaire designed for children, questionnaires developed by Borun (1977) and Peart (1982) were used as models. Inappropriate questions were deleted, and wording changed so that the instrument was appropriate for children between the ages of eight to twelve years (Appendix D).

Objective Pretest

An objective pretest (Appendix D) consisting of six multiple choice questions was developed to measure the participants' general knowledge concerning the fur trade era and the establishment of the Victoria Mission and Fort Victoria. The pretest was designed to provide data which could determine the equivalences of the different classroom groups. The pretest was not designed to be used as a baseline from which to measure the knowledge gained by the children as a result of having participated in the interpretive programme.

It was decided that the pretest and posttest versions of the objective test should differ for the following reasons:

1. To avoid sensitizing the children to the interpretive programme.
2. To avoid sensitizing the children to the objectives of the study and the posttest.
3. Determining classroom group equivalences was thought to be more important in fulfilling the study objectives than determining knowledge gain.

Objective Posttest

An objective posttest (Appendix E) consisting of seventeen multiple choice questions and one matchup question was also developed to measure the participants' cognitive response to the information presented during the interpretive programme. A number of questions were originally designed to correspond to the information presented in the interpretive programme as outlined in the Interpretive Programme Matrix developed by Historic Site Services for the Victoria Settlement (Appendix C). The Matrix has four levels of interpretive information which moves from general information to specific information regarding the history and development of the site. The Matrix outlines what level(s) of information should be presented to visitors of various ages and the media form(s) necessary to relay this information to the visitor.

Questions were chosen according to the number of criteria each fulfilled. The criteria were as follows:

1. relevance of question to the learning objectives;
2. relevance of question to the study objectives;
3. relevance of question to the interpretive programme presented to grade four and five students;
4. ability of grade four and five students to understand and answer the question;
5. clarity of the question;
6. the relationship between the question and the manner in which the information was presented during the interpretive programme.

The questions in the objective posttest dealt with both abstract and concrete/visual information presented throughout the interpretive programme. The questions which dealt with abstract information were numbers 1-11 and 13. The questions which dealt with concrete/visual information were 12, 14-17 and 18 a-h.

Each of the seventeen multiple choice questions had only one best answer. The number of choices per question varied from three to five. The matchup question had eight correct answers with ten picture choices.

Affective Questionnaire

An affective questionnaire (Appendix E) was developed to measure affective response pertaining to the participants' feelings about the costume reproductions and

the Alberta Culture uniform worn by the female interpreter during the interpretive programme. The affective questionnaire consisted of Likert scales and open-ended questions.

The Likert scale is a summated rating scale which measures attitude. It is used quite extensively in behavioural research for the purpose of placing the subject somewhere on an agreement continuum of the attitude in question. Kerlinger (1973) states that a summated rating scale is:

> A set of attitude items, all of which are considered of approximately equal "attitude value," and to each of which subjects respond with degrees of agreement or disagreement (intensity). The scores of the items of such a scale are summed, or summed and averaged, to yield an individual's attitude score (p. 496).

The use of summated rating scales has some definite advantages. They allow for the intensity of the attitude to be expressed thus resulting in greater variance. They are easier to develop than other attitude scales and "yield about the same results as the more laboriously constructed, equal-appearing interval scale" (Kerlinger, 1973, p. 499).

The major weakness with using summated rating scales is that the variance "often seems to contain response-set variance" (Kerlinger, 1973, p. 496). This means that individuals tend to use certain types of responses. As a result, individual variance yielded when using summated rating scales is partly due to response set.

Although the use of open-ended questions has been discouraged throughout the literature (Borun, 1977; Rubenstein, 1982), their use can yield useful data which can validate and supplement data retrieved from attitude rating scales (Henerson, Lyons Morris, & Taylor Fitz-Gibbons, 1978). The affective questionnaire used in this study combined the use of Likert scales with open-ended questions. Each Likert scale was followed by an open-ended question. This form was used so the children understood what information was required. It was hoped that the answer given in the open-ended questions would validate the response given in the Likert scale.

The use of different questioning techniques for retrieving data has been encouraged in the literature (Eason & Linn, 1976). For this reason a combination of attitude scale and open-ended questions was thought to be an effective means of collecting valid data without biasing the responses.

Pilot Test and Final Revisions

The demographic and objective pretest instruments, the affective posttest instrument, and portions of the objective posttest instrument were pilot tested using twenty-four grade three students. The researcher used a grade three class because pilot testing one of the grade four or five classes would have resulted in an inadequate sample size.

Pretesting the demographic and objective pretest instruments yielded the following results:

1. The demographic instrument was correctly answered by all children and required no revision.
2. The children had some difficulty answering the objective pretest because the wording used for some of the questions was too advanced. After the children completed the posttest, they, along with their teachers, and the researcher, went through the objective pretest and discussed appropriate revisions.

Only those questions in the objective posttest that were thought to be too abstract for grade four and five students, and that presented difficulty in terms of appropriate wording, clarity, and meaning, were pretested.

Pilot testing the objective posttest yielded the following results:

1. Rewording some of the questions in the objective posttest was necessary for the comprehension of the grade four and five students.
2. Adding at least one more distractor to all the objective posttest questions was necessary to make the posttest more challenging for the grades participating in the study.
3. More appropriate distractors were required for some of the posttest questions.

4. The children raised a number of questions which they discussed with the researcher. This afforded the researcher the chance to develop more questions that had not been previously considered.
5. The researcher found that a greater number of questions could be included in the objective posttest and still not have the posttest exceed the ten to twelve minutes allotted for its completion.

The affective posttest instrument was also pilot tested using the same grade three class. The Likert scales used in this portion of the posttest used happy faces with gradations of expressions which varied from an extreme smile to an extreme frown. After the completion of the pilot test it was decided that use of single words or phrases using no more than two words was a more effective way of obtaining data. The words chosen for the Likert scales had to meet the following criteria:

1. They had to be comprehensible to children 8 to 12 years of age.
2. They had to describe accurately and in gradations the different intensities of feeling for each variable.
3. They could not be faddish words such as gross and awesome. Children tend to circle these words because they like them, hence the data retrieved would not indicate the intensity of an attitude.

After the necessary changes were made to the pretest and posttest instruments, they were again pretested using a twelve year old boy. Again, the wording of some of the questions and distractors were changed. The instruments were then critiqued by two teachers, who deal with this age group. The emphasis at this time was given to the affective posttest, and the adjustment of questions on the objective posttest which still failed to retrieve the sort of data that the researcher desired. The researcher again made the necessary changes before the instruments were used to collect data.

F. Analysis of Data

Many individuals who conduct educational research are oriented towards the use of nonparametric statistics because the normality of a sample drawn from such a population is in question. However, Kerlinger (1986) states that "the evidence to date is that the importance of normality and homogeneity is overrated. Unless there is good evidence to believe that populations are rather seriously nonnormal and that variances are heterogeneous, it is usually unwise to use a nonparametric statistical test in place of a parametric one" (p. 267) because "parametric tests are almost always more powerful than nonparametric tests" (p. 267).

The measures to be analyzed in the objecti.. pretest and objective posttest are "continuous measures with equal

intervals" (Kerlinger, 1986, p. 268). Consequently parametric tests are appropriate. It has been noted in the literature that the Likert scales used in this study in the affective questionnaire, are ordinal measures (Kidder, 1981, p. 216) which should be analyzed through the use of nonparametric statistics. However, Kerlinger (1973) states that Likert scales yield the same results "as the more laboriously constructed, equal-appearing interval scale" (p. 499). He also notes that the importance of assumption of continuous and equal intervals of measure has been overrated, disposed of by Anderson (1968), and lampooned by Lord (1953) (Kerlinger, 1986, p. 268).

Two-way analysis of variance was used to test the difference between the six subgroup means as well as test for interaction between the subgroups and groups. A Scheffe posteriori contrast test was used to test that no two subgroups were significantly different. A homogeneity-of-variance test was used to test for homogeneous subsets within the sample.

A t-test was used to test the differences among the Costume and Uniform Group means in Hypotheses 1 to 4. Factor analysis was used to determine clusters of variables measured by the Likert scales and content analysis performed on the responses to the open-ended questions on the affective questionnaire. The Pearson product moment correlation was used to determine the relationship between

the participants' cognitive responses to the interpretive programme (costume and non-costume components) and the participants' affective responses to the interpreter's mode of dress and the interpretive programme.

The independent variable in this study was the interpreter's mode of dress, which included costume reproductions and an Alberta Culture uniform. The dependent variables were cognitive response and affective response. An alpha level of .01 was set for all statistical analyses in this study.

IV. FINDINGS AND DISCUSSION

The following chapter will address findings from the data collected through the administration of the pretest and posttest. The findings and discussion will be presented in the following five sections: demographic findings, pretest findings, posttest findings for cognitive response, posttest findings for affective response and the relationship between cognitive and affective response. This chapter will detail the results of the study, and discuss them with reference to the objectives of the study, and relevant literature.

A. Demographic Findings

The distribution of the participants was analyzed in terms of the participants' sex, grade, age, and whether the school they attended was located in an urban or rural community. The sample for the study consisted of 93 subjects who comprised groups of grade four and five students visiting the Victoria Settlement. These groups participated in the formal school tour conducted by the interpreter during the month of June 1987. Each participant was randomly placed into one of two groups which was determined by the colour coding system. The Costume Group viewed the interpreter clothed in costume reproductions, while the Uniform Group viewed the interpreter clothed in an Alberta Culture uniform. The former group had 46 subjects, while the latter had 47 subjects.

Age of the subjects ranged from 9 to 12 years. The specific age distribution of subjects within each of the two groups is presented in Table 1. The findings indicated that over three-quarters of the total sample consisted of participants who were either 10 or 11 years of age. The distribution of 11 year olds between the Costume and Uniform Groups was within one percent. However, the Uniform Group had approximately 5.4% more 10 year olds than did the Costume Group. Conversely, the Costume Group had 4.3% more subjects who were 9 years of age than did the Uniform Group. The age distribution of 12 year olds between the two groups was again within one percent. Aside from the differences mentioned above, the age distribution between the two groups was consistent.

Table 1: Percentage Distribution for Age of the Subjects in the Costume Group and Uniform Group (n = 93)

		Age (years)				
Group	n	8	9	10	11	12
Costume	46	0	7.5	16.1	19.4	6.5
Uniform	47	0	3.2	21.5	20.4	5.4
Total	93	0	10.8	37.6	39.8	11.8

The sex distribution for subjects within each of the two groups is presented in Table 2. The findings indicated

that the sample consisted of 51.6% female and 48.4% male participants. The distribution was relatively equal between the Costume and Uniform Groups. However, it should be noted that the Uniform Group had 3.2% more female subjects than male subjects. As well, there were 2.2% more female subjects in the Uniform Group than the Costume Group. There was also 1.0% more males in the Costume Group than in the Uniform Group. The distribution of males and females within the Costume Group was identical at 24.7%.

Table 2: Percentage Distribution for Sex of the Subjects in the Costume Group and Uniform Group (n = 93)

		SEX	
Group	n	Males	Females
Costume	46	24.7	24.7
Uniform	47	23.7	26.9
Total	93	48.4	51.6

For the grade variable, the findings indicated that the grade five students outnumbered the grade four students by 26.8% (see Table 3). However, the distribution of grade four and five students between the two groups was consistent, with approximately 13.5% more grade five students in each of the Costume and Uniform Groups.

Table 3: Percentage Distribution for Grade of the Subjects in the Costume Group and Uniform Group (n=93)

		GRADE	
Group	n	4	5
Costume	46	17.2	32.3
Uniform	47	19.4	31.2
Total	93	36.6	63.4

Table 4 shows the distribution of subjects for the school location variable. The findings indicated that 53.8% of the total sample attended schools located in rural areas, and 46.2% of the total sample attended schools located within urban areas. The distribution of students who attended schools located in rural and urban areas was consistent between the two groups. However, both groups included a greater number of participants who attended schools located in rural areas, with the Uniform Group consisting of 2.2% more participants who attended rural schools than the Costume Group. With regard to urban schools, there was a 1.2% difference in favour of the Costume Group.

Table 4: Percentage Distribution of Subjects for Location of School that Participants Attended in the Costume Group and Uniform Group (n=93)

		LOCATION OF SCHOOL	
Group	n	Urban	Rural
Costume	46	23.7	25.8
Uniform	47	22.5	28.0
Total	93	46.2	53.8

B. Objective Pretest Findings

The participants' cognitive responses were analyzed based upon their scores on the objective pretest. Table 5 sets out the participants' scores on the objective pretest for the six Costume and Uniform Subgroups.

Table 5: Ranges, Means and Standard Deviations for the Subjects' Scores on the Objective Pretest in the Six Subgroups (n = 93)

Group	Class	Subgroup	n	Range*	Mean	S.D.
Costume	1	1	22	0-5	3.1	1.46
	2	2	16	2-4	3.2	.54
	3	3	8	2-6	3.6	1.19
Uniform	1	4	21	1-5	3.1	.88
	2	5	17	3-5	3.8	.64
	3	6	9	1-4	2.3	1.11

*Possible range is 0 to 6.

The Costume Group and Uniform Group were analyzed as subgroups, each subgroup represented approximately one-half of an intact class group. Each intact class group consisted of one Costume Subgroup and one Uniform Subgroup. Because the researcher used intact class groups and not a true random sample, it was important to ensure that the Costume Group and Uniform Group correlated before the posttest data were analyzed.

It was found that subgroups 1 to 4 had similar scores, with their means ranging from 3.1 to 3.6. The means of subgroups 5 and 6 deviated from the other subgroups, with scores of 3.8 and 2.3 respectively. Possible explanations for these deviations are discussed below.

One possible explanation for subgroup 5 having the highest mean score was that it had the greatest number of grade 5 students. Grade 5 students composed 88.2% of this subgroup, with 11.8% being grade 4 students. The former students may have been more knowledgeable about the fur trade era, and consequently found the pretest easier than the other subgroups.

Subgroups 3 and 6 were from the same classroom group. Although the grade and age distribution between the two were similar, their mean scores differed significantly, 3.6 and 2.3 respectively. Discussions with the group's contact teacher yielded one possible explanation for this inconsistency. A number of the students have difficulty

grasping onto information and concepts as quickly as their classmates. This of course influences their reading, writing, and comprehension skills. As well, a few students were repeating grades 4 and 5. Which students comprised each of the subgroups, and how they may have affected the pretest results is unknown. However, it should also be noted that the literature comments on the inability of some students to cope with learning in a novel environment (Falk, 1978, 1980). This, combined with the previous explanations may have affected subgroup 6 more than the other subgroups.

Two-way analysis of variance was used to test the variability between the two groups, between the six subgroups, and whether there was interaction between the groups and subgroups (see Table 6). The results indicated that there was an absence of main effects. However, there was disordinal interaction between the groups and subgroups at the set alpha level of .01, which was statistically significant. This interaction occurred because of the differences between the means of two intact class groups. subgroup 5 had a higher mean than subgroup 2 (Class 2), while subgroup 6 had a lower mean than subgroup 3 (Class 3). Possible reasons why the means of subgroup 5 and subgroup 6 deviated from the other subgroups include grade and intellectual abilities. Explanations of how these two areas influenced the results have just been discussed.

Table 6: Two-way Analysis of Variance for Cognitive Response as Measured by the Objective Pretest for the Costume Group and Uniform Group

Source	DF	SS	MS	F	p
Main Effects	3	5.15	1.72	1.63	.188
Between Subgroups	1	5.14	2.57	2.44	.093
Between Groups	2	.004	.004	.004	.951
Interaction of Subgroups/Groups	2	10.42	5.21	4.95**	.009

**$p \leq .01$

Kerlinger (1986) notes that there are two causes of significant interaction other than that which is the "result of the 'true' interaction of experimental treatments" (p. 240). The first is error, where a significant interaction has occurred by chance. The second is an extraneous, uncontrolled effect, which operates at only one level of the experiment. In this study, the researcher concludes that the interaction which occurred did so because of error. Error included the uneven distribution of Class 2 grade 5 students between subgroups 2 and 5, as well as the possible uneven distribution of Class 3 students between subgroups 3 and 6. These uneven distributions may have influenced the means of subgroups 5 and 6 which deviated from the other subgroup means. This deviation resulted in disordinal interaction between the groups and subgroups.

A Schetté posteriori contrast test was performed on the six subgroups. The results concurred with the two-way analysis of variance, showing that no two groups were significantly different at the .01 level of significance. As well, a homogeneity-of-variance test indicated that the Costume Group and Uniform Group were comprised of homogeneous subsets.

Table 7: Ranges, Means and Standard Deviations for Subjects' Scores on the Objective Pretest in the Costume Group and Uniform Group (n = 93)

Group	n	Range*	Mean	S.D.
Costume	46	0-6	3.19	1.16
Uniform	47	1-5	3.21	.99

*Possible range is 0 to 6.

Table 7 sets out the mean scores for the Costume and Uniform Groups. The table indicates that the means of the two groups are equivalent. However, what these values and the post hoc tests failed to indicate was the interaction between the two independent variables, groups and subgroups.

C. Posttest Findings for Cognitive Response

The first two objectives of the study focused on the participants' cognitive response to the costume and non-

costume components of the interpretive programme. The participants' cognitive responses were analyzed based upon their scores on the objective posttest. Table 8 sets out the participants' scores on the objective test for the Costume and Uniform Groups. It was found that the means of the two groups ranged from 15.6 to 18.1, with the Costume Group having the higher of the two means.

Table 8: Ranges, Means and Standard Deviations for Subjects' Scores on the Objective Posttest in the Costume Group and Uniform Group (n=93)

Group	n	Range*	Mean	S.D.
Costume	46	8-25	18.1	4.06
Uniform	47	10-22	15.6	3.09

*Possible range is 0 to 27.

To fulfill the first two objectives, the researcher analyzed the objective posttest data in two parts. Each part consisted of those questions which related to either the costume or non-costume component of the interpretive programme. Tables 9 and 10 set out the participants' scores in each of the two groups for the costume and non-costume components of the objective posttest.

Table 9: Ranges, Means and Standard Deviations for Subjects' Scores on the Costume Component of the Objective Posttest in the Costume Group and Uniform Group (n=93)

Group	n	Range*	Mean	S.D.
Costume	46	0-3	1.7	.779
Uniform	47	0-3	1.1	.729

*Possible range is 0 to 3.

Table 10: Ranges, Means and Standard Deviations for Subjects' Scores on the Non-costume Component of the Objective Posttest in the Costume Group and Uniform Group (n=93)

Group	n	Range*	Mean	S.D.
Costume	46	7-23	16.4	3.81
Uniform	47	10-20	14.4	2.74

*Possible range is 0 to 24.

As the above tables indicate, the Costume Group had a higher mean score than the Uniform Group for each component of the objective posttest.

The descriptive data set out in Table 9 were further analyzed in terms of Objective 1 of the study. Objective 1 was to determine if a difference existed in the participants' knowledge of costume between those who saw the costume reproductions worn by the interpreter, and those who did not. A null hypothesis was developed to

fulfill Objective 1, and a t-test was used to test this hypothesis (see Table 11).

Table 11: One-tailed T-test for Cognitive Response to the Costume Component of the Interpretive Programme as Measured by the Objective Posttest for the Costume Group and Uniform Group (n=93)

Variable	n	df	T	p
Costume Component Posttest Score	93	91	3.90**	.000

**$p \leq .01$

The t-test indicated that a significant difference did exist between the two groups for the cognitive response variable as it related to the information given about costume during the interpretive programme. Null Hypothesis 1, that there is no significant difference in the participants' knowledge of the costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not was therefore rejected.

The results of the analysis of Objective 1 suggested that the Costume Group was more receptive than the Uniform Group to the costume information presented throughout the interpretive programme. It should also be noted that question seventeen (men's clothing) was answered correctly by 65.2% of the Costume Group and 65.9% of the Uniform

Group. However question sixteen (women's clothing) was answered correctly by 87% of the Costume Group and 59.5% of the Uniform Group. Although the Uniform Group was not exposed to the costume reproductions worn by the interpreter, both groups received identical exposure to the photographs and slides of appropriate men's clothing. These results indicated that the information transferred to the two groups regarding men's clothing was consistent. However, when exposed to the costume reproductions the information transferred was much greater. Therefore, the Costume Group found question sixteen much easier to answer correctly than the Uniform Group.

These findings are consistent with the literature. Both Schramm (1954) and Peart (1982) note that in the communication process, the receiver (destination) can decode a message only in terms of the experience he/she has had. The costume reproductions worn by the interpreter established a visual awareness towards appropriate female period dress in the Costume Group that was lacking in the Uniform Group. This in turn created an interest in the costume component of the interpretive programme for the Costume Group. Therefore decoding information specific to the costume component of the interpretive programme was an easier task for the Costume Group than for the Uniform Group. The recall of costume specific information was also a much easier task for the Costume Group. This was because

appropriate costume was in the realm of the Costume Group's experience, in a concrete/ visual form. The concrete/visual form was the costume reproductions worn by the interpreter. Because the uniform did not provide a concrete/visual experience specific to appropriate period costume, the transfer and recall of information which pertained to the costume component of the interpretive programme was more difficult for the Uniform Group.

The second objective of this study was to determine if a difference existed in the participants' knowledge of the non-costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not. Again, a null hypothesis was developed to fulfill Objective 2. The t-test used to test Null Hypothesis 2 indicated that a significant difference did exist between the two groups' cognitive response to the non-costume component of the interpretive programme (see Table 12). Therefore, Null Hypothesis 2, that there is no significant difference in the participants' knowledge of the non-costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not, was rejected.

Table 12: One-tailed T-test for Cognitive Response to the Non-costume Component of the Interpretive Programme as Measured by the Objective Posttest for the Costume Group and the Uniform Group (n=93)

Variable	n	df	T	p
Non-costume Component Posttest Score	93	91	2.74**	.007

**$p \leq .01$

The results of the analysis for Objectives 1 and 2 indicated that the subjects who participated in the interpretive programme with the interpreter dressed in the Alberta Culture uniform had significantly lower scores on the costume and non-costume aspects of the objective posttest than those subjects who participated in the programme with the interpreter dressed in costume reproductions. These findings suggested that the Uniform Group did not possess the knowledge required to answer some of the questions the researcher was asking with respect to the costume and non-costume components of the interpretive programme. However, the mean score for the Uniform Group was 15.6 out of a possible 27 points. This indicates that some information was transferred to the Uniform Group during the course of the interpretive programme.

A comparative profile of the demographic data and responses to the objective posttest indicated that the distribution of males and females, grade 4 and 5 students

ranging in age from 9 to 12 years, and subjects who attended schools located in urban or rural areas was comparable in both groups. Consequently, demographic differences were not seen as influencing the information transfer in either of the two groups.

Table 13: Percentage Distribution of Abstract and Concrete/Visual Questions Which Deal With Site Specific and Costume Specific Information in the Objective Posttest

	QUESTION ORIENTATION	
Question Format	Site Specific	Costume Specific
Abstract	40.0	0
Concrete/Visual	40.0	20.0

Table 13 sets out what percentage of the objective posttest consisted of abstract, concrete/visual, and site and costume specific questions. The questions (44.4% of the 27 asked) that had at least 70% of the sample answer correctly had a concrete/visual component in the interpretive programme. These findings are consistent with the literature. Peart (1982) found that knowledge gain increased as the study exhibit became more participatory, or became more sensory oriented, or included real objects (p. 54). Dale (1954) notes that learning becomes more effective and permanent as sensory involvement increases. Referring to Dale's (1954) Cone of Experience, these

findings indicate that as the interpretive programme became more concrete through the use of objects and artifacts, there was a greater opportunity for learning to occur.

It could be concluded that the use of concrete/visual reinforcements aided in the understanding and transfer of the information presented. However, it should also be noted that 75% of the questions which referred to concrete/visual information were presented in a visual format. This may have had a great influence on the ability of the subjects to respond accurately. This question format was consistent with the literature which notes that questions should be asked in a manner which parallels the format in which the information was relayed (Eason & Linn, 1970).

The Uniform Group received higher scores than the Costume Group on 37.1% of the 27 objective posttest questions (see Table 14). It is interesting to note that all of these questions had a concrete/visual component in the interpretive programme. There are two possible explanations.

The first explanation is that the Uniform Group related more readily than the Costume Group to the visual format that the concrete/visual questions took. The second explanation is that the Uniform Group focused more intently on the concrete/visual information presented by the interpreter because the interpreter was not interesting to look at due to the clothing worn. The Costume Group, who

received lower scores on the concrete/visual questions, may have found the costume reproductions worn by the interpreter distracting. The number of visual cues coming from the concrete/visual information presented by the interpreter as well as the costume were too numerous to allow the participants to concentrate fully on the interpretive programme. There is one possible explanation which considers why the costume reproductions may have been distracting.

Under normal circumstances classes visiting the site are greeted upon arrival by a costumed interpreter. However, in order to adhere to the study's methodology, exposure to the costume reproductions (and uniform) was restricted to that portion of the interpretive programme held in the Clerk's Quarters. The former situation allows the students to become visually sensitized to the costume reproductions worn by the interpreter before commencing with the tour. However, because the procedure followed in the latter situation differed from the norm such sensitization was not possible. Had the Costume Group been exposed to the costumed interpreter from their arrival at the site, the costume reproductions may have served to enhance rather than distract during the concrete/visual portions of the interpretive programme.

Table 14: Percentage Distribution of Responses Given by the Costume Group and Uniform Group For Abstract and Concrete/Visual Questions on the Objective Posttest (n=93)

	GROUP	
Question Format	Costume (n=46)	Uniform (n=47)
Abstract	40.7	Ø
Concrete/Visual	22.2	37.1

Table 14 sets out what percentage of the abstract and concrete/visual questions on the objective posttest each of the two groups received. The Costume Group received higher scores than the Uniform Group for every abstract question on the objective posttest. It was this differentiation that resulted in the Costume Group's higher mean score for the objective posttest. One possible explanation for this difference is that the Costume Group focused more intently on the interpreter during the more abstract portions of the interpretive programme because of the costume reproductions worn by the interpreter.

In light of the above explanation, a conclusion that the interpreter's mode of dress influenced the participants' cognitive response to the interpretive programme could be drawn. However further research is necessary to test the validity of such a conclusion. It should also be noted that generalizations from these

conclusions are not possible due to the limitations of the study.

D. Posttest Findings for Affective Response

Affective response was analyzed in three stages. First, affective response to the costume and non-costume components was analyzed on the basis of the scores received on the Likert scales which dealt with these areas. Affective response was then analyzed using factor analyses. Lastly, affective response was analyzed based on the responses given by the participants to the open-ended questions which dealt with the interpreter's clothing and the interpretive programme.

The third objective of the study was to determine if a difference existed in the participants' affective response to the costume component of the interpretive programme between those who saw the costume reproduction worn by the interpreter and those who did not.

Table 15 indicates that for the costume component of the affective questionnaire, the Costume Group had a higher mean score than the Uniform Group. Table 16 indicates the percentage of the sample which responded to each of the gradations on the Likert continuum. It is interesting to note that as the possible responses on the Likert scale became more positive, the number of positive responses from the Costume Group increased, while the number of positive responses from the Uniform Group decreased.

Table 15: Ranges, Means and Standard Deviations for Subjects' Scores on the Costume Component of the Affective Posttest in the Costume Group and Uniform Group (n=93)

Group	n	Range*	Mean	S.D.
Costume	46	1-5	4.2	1.11
Uniform	47	1-5	2.7	1.36

*Possible range is 0-5.

Table 16: Percentage Distribution of Responses Given by the Costume Group and Uniform Group in the Affective Posttest for the Likert Scale Which Asked How the Participants Felt About the Clothing the Interpreter Wore (n=93)

	GROUP	
Possible Responses on Likert Scale	Costume n=46	Uniform n=47
awful	2.2	11.8
not bad	2.2	12.9
so-so	6.5	9.6
okay	10.7	9.6
super	28.0	6.5

A null hypothesis was developed to fulfill Objective 3, and a t-test was used to test this hypothesis (see Table 17). The t-test indicated that a significant difference did exist between the two groups for the affective response variable as it related to the costume component of the

interpretive programme. Null Hypothesis 3, that there is no significant difference in the participants' affective response to the costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not, was therefore rejected.

Table 17: One-tailed T-test for Affective Response to the Costume Component of the Interpretive Programme as Measured by the Affective Posttest for the Costume Group and Uniform Group (n=93)

Variable	n	df	T	p
Costume Affective Score	93	91	5.78**	.000

**p $\leq$ .01

These findings would suggest that the Costume Group felt more positive towards the interpreter's dress than did the Uniform Group.

The fourth objective of this study was to determine if a difference existed in the participants' affective responses to the non-costume component of the interpretive programme between those who saw the costume reproductions worn by the interpreter and those who did not.

Table 18 indicates that for the non-costume component of the affective questionnaire, the Costume Group had a higher mean score than the Uniform Group. The concentration of the Costume Group's responses was found

between 18 and 23 points. In this range 80.58 of the Costume Group responded, while only 38.38 of the Uniform Group's responses were here. The Uniform Group's responses were concentrated between 15 to 18 points, with approximately 22.48 being distributed on either side of this range.

Table 18: Ranges, Means and Standard Deviations for the Subjects' Scores on the Non-costume Component of the Affective Posttest in the Costume Group and Uniform Group (n=93)

Group	n	Range*	Mean	S.D.
Costume	46	11-23	19.3	2.73
Uniform	47	11-23	16.6	3.07

*Possible range is 0-28.

Table 19: One-tailed T-test for Affective Response to the Non-costume Component of the Interpretive Programme as Measured by the Affective Posttest for the Costume Group and Uniform Group (n=93)

Variable	n	df	T	p
Total Non-Costume Affective Score	93	91	4.56**	.000

**$p \leq .01$

A null hypothesis was developed to fulfill Objective 4, and a t-test used to test this hypothesis (see Table

19). The t-test indicated that a significant difference did exist between the two groups for the affective response variable as it related to the non-costume component of the interpretive programme. Null Hypothesis 4, that there is no significant difference in the participants' affective response to the non-costume component of the interpretive programme between those who saw the costume reproductions and those who saw the Alberta Culture uniform was therefore rejected.

As with the costume component, these results would suggest that the Costume Group felt more positive towards the non-costume component of the interpretive programme than did the Uniform Group.

The results of testing Objectives 3 and 4 indicated that the Costume Group felt more positive towards the costume and non-costume components of the interpretive programme than did the Uniform Group. One possible explanation for this difference is that the costume reproductions worn by the interpreter were more enjoyable to look at than the uniform. As well, the costume reproductions created a more realistic and authentic atmosphere than did the uniform. The costume reproductions enhanced this atmosphere, while the uniform accentuated the differences between life during the 1890's and 1980's.

In terms of affective response, these findings are consistent with the literature. Andrews (1984) found that

of the four mannequins used in an exhibit to display a bathing costume, the most favourable form, in terms of affective response, was the period mannequin with hair, facial features, arms and legs. These results parallel the findings of this study. Simonson (1978) notes that attitudes become more positive as the media used to deliver the message become more concrete. He equates an increase in the concreteness of media type with an increase in visual cues. With reference to this study, it has been previously mentioned that the costume reproductions had more visual cues than did the uniform. Dale (1954) notes that the chances of formulating an attitude response in children increases as the media used to communicate the message becomes more concrete. Referring to Dale's (1954) Cone of Media Selection for the Affective Domain, these findings indicate that the use of costume reproductions was more effective in establishing a concrete image. Hence, the message communicated to the participants via the interpreter and physical surroundings was enriched. Consequently the formation of a positive attitude towards the interpretive programme was easier to establish for the Costume Group than the Uniform Group. This conclusion is reflected in the results of this portion of the study.

Stage 2 for the analysis of Objectives 3 and 4 looked at affective response on scores of each of the two factors determined after a factor analysis of the Likert scales

affective response data was performed. Analysis of the correlation coefficients for each of the 6 variables measured by the 6 Likert scales, and analyzing the rotated factor matrix, determined that there were two very strong factors. The communalities and factor loadings of each Likert scale, as well as the eigenvalues and the percentage of total variance contributed by each of the two factors are presented in Table 20.

Table 20: Factor Loadings and Communalities for Each Likert Scale and Eigenvalues and Percent Total Variance for Each of the Two Factors

Question	Scale	Communality	Factor 1	Factor 2
19	Feelings about visit to settlement	0.768	0.012	0.876
20	Interest in history	0.638	0.308	0.737
21	Feelings about tour	0.571	0.358	0.665
22a	Feelings about guide in relation to tour	0.689	0.802	0.211
23	Feelings about guide	0.708	0.812	0.222
24a	Feelings about guide's dress	0.748	0.851	0.152
Eigenvalue			3.036	1.085
% Total Variance			50.6	18.1

The eigenvalues for the two factors (see Table 20) confirmed that Factor 1, with a value of 3.036, was stronger than Factor 2. Factor 2 had an eigenvalue of 1.085. Factor 1 also accounted for most of the variance at 50.6 percent of the total.

Table 20 also indicates that questions 22a to 24a are loaded on Factor 1 but not on Factor 2. Conversely, questions 19-21 are loaded on Factor 2 but not on Factor 1. These results indicate that the Likert scales were "pure" (Kerlinger, 1986, p. 572).

From the Factor matrix an R matrix was developed. Inspection of the R matrix confirmed that there were two factors underlying the Likert scales. Common to the Likert scales in questions 22a to 24a is the reference made to the guide (interpreter). Perhaps the underlying factor here is feeling towards the interpreter. Common to the Likert scales in questions 19-21 is history. Perhaps the underlying factor here is feeling towards history.

From the data presented in Table 20 three conclusions were drawn. First, that there is a correlation between how the participants felt towards the interpreter, the interpreter's clothing, and whether the interpreter made them feel like they had stepped back in time. Second, that there is a correlation between how the participants' felt towards the Victoria Settlement, the tour and history.

Finally, that there is no correlation between Factor 1 (the former) and Factor 2 (the latter).

Descriptive data for the two factors were obtained and analyzed (see Table 21). In comparing the scores of Factor 1 and Factor 2 for the two groups it was found that the Costume Group had the greater mean score in both cases. These results compare to those found for total score on the affective questionnaire and those found for scores on the costume and non-costume components of the affective questionnaire.

Table 21: Means and Standard Deviations for Scores on the Likert Scales which Clustered on Factor 1 and Factor 2 of the Affective Posttest for the Costume Group and the Uniform Group (n=93)

	MEAN	GROUP	
Factor	Standard Deviation	Costume n=46	Uniform n=47
1. Likert scales= feelings towards stepping back in time, guide and guide's clothing.	M	12.5	9.3
	SD	2.12	2.94
2. Likert scales= feelings towards the Victoria Settlement, history, and tour.	M	10.9	9.8
	SD	1.96	1,93

To further investigate Objective 3 and the third hypothesis and Objective 4 and the fourth hypothesis, a t-

test was conducted based on total scores for the two factors in each of the Costume and Uniform Groups (see Table 22). It was found that a significant difference existed between the two groups on Factor 1 for the affective response variable and Factor 2 for the affective response variable. With respect to Factor 1 and Factor 2 for the variable affective response, Null Hypothesis 3 and Null Hypothesis 4 were again rejected.

Table 22: One-tailed T-test for Likert Scale Scores which Clustered on Factor 1 and Factor 2 of the Affective Posttest between the Costume Group and the Uniform Group (n=93)

Factor	df	T	P
1	91	6.17**	.000
2	91	2.74**	.0035

**$p \leq .01$

In terms of explaining these results for Factor 1, a discussion similar to that presented for the scores on the costume and non-costume component of the affective questionnaire would apply. The conclusion being that the costume reproductions worn by the interpreter greatly influenced the participants' affective response with regard to feelings toward stepping back in time, feelings toward the interpreter, and feelings toward the interpreter's clothing. It could be concluded that the more realistic

the presentation of the message communicated to the participants, the more positive was their affective response.

Explaining these results for Factor 2 requires further investigation. Table 23 sets out the results of the descriptive analysis for the three affective response variables which clustered on Factor 2.

Table 23: Means and Standard Deviations for Scores on each Likert Scale which Clustered on Factor 2 of the Affective Posttest for the Costume Group and the Uniform Group (n=93)

	MEAN	GROUP	
Likert Scale	Standard Deviation	Costume n=46	Uniform n=47
How participant felt about going to the Victoria Settlement	M SD	4.2 .83	3.9 .94
Participants' interest in history	M SD	2.4 .55	2.1 .54
How participant felt about the interpretive programme	M SD	4.2 .55	3.7 .54

In comparing the scores, it was found that the Costume Group had the higher mean score for each of the three affective response variables. T-tests were conducted based on the scores for each of the three variables in the two groups (see Table 24). It was found that a significant difference did not exist for the first and third affective

response variables, feelings toward the Victoria Settlement and feelings towards the tour. There are three possible explanations.

Table 24: One-tailed T-test for Affective Response on Each Likert Scale which Clustered on Factor 2 of the Affective Posttest for the Costume Group and the Uniform Group (n=93)

Likert Scale	df	T	p
How participant felt about going to the Victoria Settlement	91	1.53	.065
Participants' interest in history	91	3.12**	.001
How participant felt about the interpretive programme	91	2.12	.015

**$p \leq .01$

The first is that the participants interpreted the statements presented for measuring the first and third affective response variables as being the same. Similar mean scores for these two variables in the two groups support this explanation.

Asking the participants to indicate how they felt about their impending visit (first variable) after the completion of the interpretive programme was not an efficient way of retrieving accurate data. The participants may have forgotten how they felt and hence both groups responded similarly to the two variables. Such

an affect has been noted in the literature (Chase, 1978). Similar mean scores between the two groups for these two variables support this explanation.

The final explanation is that the participants responded in a manner referred to as response set (Kerlinger, 1986). Instead of recording the intensity of their feelings towards the two statements, they responded by giving what they believed to be the proper response.

It was found that a significant difference did exist between the two groups on the second affective response variable, feelings towards history. The conclusion that the Costume Group received significantly higher scores on the cognitive posttest than the Uniform Group because of their positive attitude towards history could be drawn from this result. However, it should be noted that the Uniform Group may have been just as interested in history as the Costume Group. Because these data were retrieved after the completion of the interpretive programme, the Uniform Group's attitude towards the programme may have influenced their response. The data retrieved from this scale would have been more reliable had it been collected before the commencement of the interpretive programme.

Finally, Stage 3 for the analysis of Objectives 3 and 4 looked at the responses given by the participants to the open-ended questions addressed in the posttest.

The number of participants who expressed what they either liked or disliked about the interpreter's dress varied between the two groups. In the Costume Group, 76.1% of the subjects responded, while in the Uniform Group there was a 65.6% response. Analysis of the responses indicated that each group focused on specific characteristics of the interpreter's dress. These characteristics, along with the like, dislike response for each Group are set out in Table 25.

Table 25: Percentage Distribution of Responses Given by the Costume Group and Uniform Group in the Affective Posttest for the Open-ended Question Which Asked the Participants What They Liked or Disliked About the Interpreter's Clothing (n=66)

		GROUP	
Like/Dislike	Response	Costume n=35	Uniform n=31
Like			
	design	45.7	32.2
	colour	2.8	12.9
	authenticity	28.7	
	looks fun to wear	5.7	
	like to wear	5.7	
Dislike			
	design		22.6
	colour	5.7	12.9
	too old fashion	5.7	6.4
	not authentic		9.8
	would not want to wear		3.2

Table 25 also indicates that 88.6% of the Costume Group liked the interpreter's clothing, while in the Uniform Group only 45.1% responded positively towards the interpreter's dress.

Table 26: Percentage Distribution of Responses Given by the Costume Group and Uniform Group in the Affective Posttest for the Open-ended Question Which Asked the Participants if They Would Prefer to See the Interpreter Dressed in Different Clothing (n=92)

	GROUP	
Response	Costume	Uniform
Yes	19.6	67.4
No	80.4	32.6

Table 26 indicates what percentage of the Costume and Uniform Groups would prefer to see the interpreter dressed differently. It is interesting to note that when asked what they would prefer the interpreter to wear all of the Costume Group who disliked some aspect of the costume responded while only 43.4% of those in the Uniform Group responded. One explanation for this result is as follows. Because the Costume Group felt more positive towards the interpretive programme than the Uniform Group, the former took a greater interest in the programme's improvement. Therefore the Costume Group took advantage of the

opportunity to give their opinions. Table 27 sets out what types of clothing the two groups would prefer to see the interpreter wear.

Table 27: Percentage Distribution of Responses Given by the Costume Group and Uniform Group in the Affective Posttest for the Open-ended Question Which Asked the Participants What Clothing They Would Prefer to See the Interpreter Dressed In (n=29)

	GROUP	
Response	Costume	Uniform
Very fancy clothing	44.5	
Clothing Mrs. McDougall wore	11.1	
Cooler clothing	11.1	
Modern clothing	33.3	25.0
Authentic clothing		60.0
Jean clothing		15.0

Analysis of the responses indicated that 37.9% of those who responded would have preferred to see the interpreter dressed in some form of modern clothing. Although the blouse and skirt portions of the uniform were purchased in May 1987, it is interesting to note that 40% of the Uniform Group did not perceive the uniform as modern. Sixty percent of the Uniform Group would have preferred to see the interpreter dressed in authentic clothing. This response as well as the acceptance of the costume reproductions by the Costume Group supports the use of costuming in interpretive programming.

Table 28: Percentage Distribution of Response Given by the Costume Group and Uniform Group in the Affective Posttest for the Open-ended Question Which Asked the Participants How the Interpreter Made or Did Not Make Them Feel Like They had Stepped Back in Time (n=49)

		GROUP	
Make/Not Make	Response	Costume	Uniform
Make			
	Objects in house	39.3	23.8
	Activities	3.6	4.8
	Interpreter's clothing	25.0	4.8
	Interpreter	17.8	28.5
	I was able to look back in time	3.6	
	Feeling the furs		4.8
	I felt older	7.1	4.8
Not Make			
	Did not feel older		14.2
	There were modern things	3.6	9.5
	Do not know		4.8

Table 28 sets out the responses given to the question which asks how the interpreter made or did not make the participant feel like they had stepped back in time. Analyses of the responses indicated the importance of the interpreter, interpreter's clothing, and artifacts to the participants' enjoyment of the interpretive programme. Appendix G presents responses given by the participants to each of the open-ended questions addressed in the posttest.

E. Relationship Between Cognitive and Affective Response

The fifth objective of the study was to determine if a relationship existed between the participants' affective

response to the costume component of the interpretive programme and the participants' affective response to the non-costume component of the interpretive programme. To fulfill Objective 5, Null Hypothesis 5 was developed. Null Hypothesis 5 stated that no significant relationship exists between the participants' affective response to the costume component of the interpretive programme and the participants' affective response to the non-costume component of the interpretive programme. Pearson's correlation was used to test Null Hypothesis 5 for each of the two groups (see Table 29).

Table 29: Correlation between Affective Response Scores on the Costume Component and Non-costume Component of the Affective Posttest for the Costume Group and Uniform Group

	Non-costume Component	
	Costume Group	Uniform Group
Costume Component	r=0.553**	r=0.434**

**$p \leq .01$

It was found that there was a significant correlation between the two groups affective responses to the costume and non-costume components of the interpretive programme. Null Hypothesis 5 was therefore rejected. This result would indicate that as feelings towards the interpreter's

clothing increased, feelings towards the interpretive programme increased, both in a positive direction.

The sixth objective of the study was to determine if a relationship existed between the participants' cognitive response to the non-costume component of the interpretive programme and the participants' affective response to the non-costume component of the interpretive programme. To fulfill Objective 6, Null Hypothesis 6 was developed. Null Hypothesis 6 stated that no significant relationship exists between the participants' cognitive response to the non-costume component of the interpretive programme and the participants' affective response to the non-costume component of the interpretive programme. Pearson's correlation coefficient was used to test Null Hypothesis 6 for each of the two groups (see Table 30).

Table 30: Correlation between Scores on the Objective Posttest and Scores on the Non-costume Component of the Affective Posttest for the Costume Group and Uniform Group

	Affective Response	
	Costume Group	Uniform Group
Cognitive Response	r=0.042	r=-0.202

It was found that there was no significant correlation between cognitive and affective response to the non-costume

component of the interpretive programme for both groups. Null Hypothesis 6 was therefore not rejected.

The seventh objective of this study was to determine if a relationship existed between the participants' cognitive response to the interpretive programme and the participants' affective response to the costume component of the interpretive programme. To fulfill Objective 7, a null hypothesis was developed and Pearson's correlation coefficent was used to test this hypothesis for each of the two groups. Null Hypothesis 7 stated that no significant relationship exists between the participants' cognitive response to the interpretive programme and the participants' affective response to the costume component of the interpretive programme.

Table 31: Correlation between Scores on the Objective Posttest and Scores on the Costume Component of the Affective Posttest for the Costume Group and Uniform Group

	Affective Response	
	Costume Group	Uniform Group
Cognitive Response	r=-0.019	r=-0.229

The Pearson's correlation coefficent indicated that a significant correlation did not exist between the two groups' cognitive response to the interpretive programme and the two groups' affective response to the costume

component of the interpretive programme (see Table 31). Therefore Null Hypothesis 7 was not rejected.

Table 32: Correlation between Scores on the Objective Posttest and Scores on the Affective Posttest for the Costume Group and Uniform Group

	Affective Response	
	Costume Group	Uniform Group
Cognitive Response	r=0.085	r=-0.176

The conclusion that no relationship existed between the participants' cognitive response and affective response was therefore drawn. Pearson's correlation coefficent for participants' cognitive and affective responses to the interpretive programme supported this conclusion (see Table 32). It indicated that a significant correlation did not exist between the two groups' cognitive and affective response to the interpretive programme.

The literature is inconclusive about whether a relationship exists between cognitive response and affective response. Simonson (1978) states that "research seems to indicate that there is a positive link between the two variables (attitude and achievement)" (p. 18). However the results of this study do not support the above statement. Rather, the results are consistent with studies conducted by Andrews (1984) and Peart (1982). In Andrew's

(1984) study, no significant correlation was found between cognitive and affective responses. Although Peart (1982) found that a correlation existed between attracting power, holding power and interaction, he did not find a correlation between cognitive response and affective response.

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. Summary

The purpose of this study was to investigate whether the use of costume reproductions, when worn by an interpreter, affects children's cognitive and affective response towards the interpretive programme presented by the interpreter. The children's responses to the interpreter's mode of dress were analyzed as follows:

1. to what extent did the children 'like' the interpreter's dress;
2. to what extent did the interpreter's mode of dress affect the message communicated by the interpreter.

Finally, the study looked at what relationships may exist between the children's cognitive and affective response to the clothing worn by the interpreter and the interpretive programme.

The sample consisted of 93 grade 4 and 5 students taken from intact class groups booked for a formal school tour.

A pretest was administered to all the participants. The purpose of the pretest was to provide data which could be correlated, to determine whether the different class groups were equivalent. The instruments for the pretest included a demographic questionnaire and an objective test. The latter instrument measured the participants' general knowledge about the fur trade and the Victoria Settlement.

The pretest was completed before the subjects participated in the interpretive programme.

Before commencing with the interpretive programme, the subjects were randomly assigned to either a Costume or Uniform Group. The interpreter wore the costume reproductions while presenting the programme to the former group and the uniform while presenting to the latter group.

A posttest was administered to all the subjects after they had completed the interpretive programme. The instruments for the posttest included an objective test and an affective questionnaire. The latter consisted of Likert scales and open-ended questions.

The methodology of this study was adapted from three research areas. The first two, basic communication theory and a goal-referenced approach to evaluation, are related areas of research. The third was Dale's Cone of Experience for Cognitive and Affective Learning.

This study was summative in nature because it evaluated a completed interpretive programme designed for children in grades 4 and 5. Because there have been no empirical data published which evaluate children's responses to interpreter's dress, it was not possible to analyze and compare this study's data with related studies. However, when applicable, the results of this study were discussed with reference to relevant literature.

Two-way analysis of variance was performed on the objective pretest to determine if the different class groups were equivalent. The results showed that there was interaction between the six subgroups and the two groups (Costume and Uniform) when the alpha level was set at .01. A Scheffé posteriori contrast test and a homogeneity-of-variance test were performed on the six subgroups. The former indicated that no two subgroups were significantly different at the .01 level. The latter indicated that the sample consisted of six homogeneous subsets.

The posttest data were analyzed using two groups, the Costume Group (those who saw the interpreter dressed in the costume reproductions), and the Uniform Group (those who saw the interpreter dressed in the uniform). A t-test performed on the objective posttest data indicated that there was a significant difference for cognitive response between the Costume Group and Uniform Group. These results showed that the information transferred between the interpretive programme and the subjects was greater when the interpreter was dressed in costume reproductions than when dressed in an Alberta Culture uniform. Consequently the Uniform Group did not possess the knowledge required to answer some of the objective posttest questions with respect to the costume and non-costume components of the interpretive programme. It was also interesting to note that the questions that had at least 70% of the sample

respond correctly, had a concrete/visual component in the interpretive programme. These findings are consistent with the literature (Dale, 1954; Peart, 1982), and emphasize that the use of concrete materials affords a greater opportunity for learning to occur.

The results of the study also showed that the Costume Group received higher mean scores than the Uniform Group for all questions on the objective posttest that had a corresponding abstract component in the interpretive programme. Because the costume reproductions were interesting to look at and aided in establishing an authentic environment, they maintained the interest of the Costume Group throughout the more abstract portions of the interpretive programme. However, the lower scores received by the Uniform Group suggest that the uniform did not maintain the interest of the group during the more abstract portions of the interpretive programme.

The corollary of the above explanation also explains why the Uniform Group received higher mean scores than the Costume Group for all the questions on the objective posttest that had a corresponding concrete/visual component in the interpretive programme. A possible explanation for this result is that the Uniform Group focused more intently on the objects in the Clerk's Quarters, as well as the objects and information presented by the interpreter because the interpreter herself was not interesting to look

at due to the clothing worn. The Costume Group, on the other hand, may have found the costume reproductions worn by the interpreter distracting. The number of visual cues coming from the concrete/visual information presented by the interpreter, as well as the costume reproductions she wore, were too numerous to allow the Costume Group to concentrate fully on the interpretive programme. Hence, the Costume Group received lower mean scores for these questions than did the Uniform Group.

A t-test was performed on the data from the affective questionnaire. As with cognitive response, the t-test showed that there was a significant difference for affective response between the two groups. Analysis of affective response data indicated that the Costume Group formulated a more positive attitude towards the costume and non-costume components of the interpretive programme than the Uniform Group.

Further analysis looked at affective response on scores of each of the two factors determined after a factor analysis of the Likert scales affective response data was performed. Analysis of the correlation coefficents for each of the variables measured by the Likert scales, and analysis of the rotated factor matrix, determined that there were two very strong factors. The results indicated that a correlation existed between how the participants felt towards the interpreter, the interpreter's clothing

and whether the participants felt like they had stepped back in time. As well, a correlation existed between the participants feelings towards the Victoria Settlement, the tour and history.

T-tests conducted on the Likert scale data which clustered on each of the two factors again indicated that there was a significant difference for affective response between the Costume and Uniform Groups.

Analysis of affective response to the open-ended questions indicated that 54.9% of the responding Uniform Group disliked some aspect of the uniform worn by the interpreter. Likewise, 67.4% of the responding Uniform Group would have preferred to see the interpreter dressed differently. For 60% of the responding Uniform Group, differently meant wearing authentic clothing.

When the participants' cognitive response to the interpretive programme and affective response to the interpreter's clothing and the interpretive programme were examined in terms of relationships that may have existed, the results indicated that a significant correlation existed for affective response to the costume and non-costume components of the interpretive programme. However, no significant correlation was found between the participants' cognitive response to the interpretive programme and affective responses to the interpreter's clothing and the interpretive programme.

B. Conclusions

From the results of this study, it could be concluded that the use of costume reproductions affects children's cognitive and affective response towards the interpretive programme presented at the Victoria Settlement for those students in grades 4 and 5.

For cognitive response, those who participated in the programme with the interpreter dressed in costume reproductions (Costume Group) received higher mean scores than did their counterparts, the Uniform Group.

This led the author to conclude that the costume reproductions served to maintain the interest of the Costume Group during the abstract portions of the interpretive programme and functioned as a distractor during the concrete/visual portions of the interpretive programme. The former was possible because the costume reproductions were interesting to look at and aided in creating an authentic environment. The latter was possible because the number of visual cues coming from the concrete/visual portion of the interpretive programme and the costume reproductions were too numerous to allow the Costume Group to concentrate fully on the interpretive programme. However, it should be noted that generalizations cannot be inferred from this conclusion. Distraction may be dependent on the participants' sensitization to the costume reproductions, as well as the

type of costume reproductions worn by the interpreter and/ or the type of concrete/visual materials used.

The results of the study also showed that the Costume Group received higher mean scores for all questions on the objective posttest that had a corresponding abstract component in the interpretive programme. The Uniform Group, however, received higher mean scores for all questions on the objective posttest that had a corresponding concrete/visual component in the interpretive programme.

For affective response, the Costume Group also received higher mean scores on the Likert Scales than the Uniform Group. Analysis of affective response, showed that the Costume Group formulated a more positive attitude towards the costume and non-costume components of the interpretive programme. Analysis of affective response to the open-ended questions indicated that the majority of the responding Uniform Group would have preferred to see the interpreter dressed in costume reproductions because they disliked some aspect of the Alberta Culture uniform. Again, it must be noted that generalizations to any uniform cannot be inferred from the results of this study. Dislike of the colour, style and component parts of the uniform were noted by the Uniform Group. However, use of a different uniform that was more appealing in terms of the above characteristics, may have yielded different results.

For affective response, the author concluded that the costume reproductions worn by the interpreter greatly influenced the participants' affective response to the interpreter and the interpretive programme in a positive direction. However, it must also be noted that the results of the study indicated that no significant correlation existed between cognitive and affective response to the costume and non-costume components of the interpretive programme, and hence the interpretive programme as a totality.

In light of the above results and explanations, as well as the acceptance of the costume reproductions by the Costume Group, the author supports the use of costume reproductions in interpretive programming. Their use is advantageous in aiding grade 4 and 5 students' understanding of the interpretive message communicated as well as facilitating the students' enjoyment of the interpretive programme.

The cost of researching, producing and maintaining costume reproductions is so expensive that a need for further research exists to determine when their use is most beneficial. As well, further research is essential before a full understanding of how costume reproductions effect cognitive and affective response can be achieved.

C. Recommendations

Recommendations Based on the Study

The following recommendations are based on the findings of the immediate study as well as the lack of literature which deals with the use of costume reproductions for interpretive use. The recommendations are listed below under two sections.

1. Based on the findings of this study, further research needs to be conducted to determine children's cognitive response to the concrete/visual and abstract content of interpretive programmes and how the use of costume reproductions influences this response. Further research in this area would indicate to historic sites whether incorporating costume reproductions in their programming, especially when the programme includes considerable abstract content, enhances children's learning.

2. The types of instruments used to collect data for this study need further testing. The affective questionnaire used a combination of Likert scales and open-ended questions. Both of these attempted to retrieve data regarding the participants' attitude towards the interpreter's dress without specifically directing the subjects' attention to this variable. Before a similar form is used for future studies consideration should be given to the use of a semantic differential. A semantic

differential is one means of obtaining several attitude responses to one variable. Although some researchers discourge the use of these scales with children (Henerson et al., 1978), developing a semantic differential specifically for children has been encouraged (Chase, 1978; Henerson et al., 1978), and might result in more reliable and valid data.

3. Because this study pretested only the cognitive variable, pretesting the affective variable prior to participating in an interpretive programme would provide useful information about visitors' preconceived feelings towards the historic site, interpretive programme, exhibits, interpretive staff, and what they expect to learn. Such research would provide a knowledge base which would assist in the development of relevant interpretive programmes and exhibits for the historic site visitor.

4. Based on the results of this study and the inconclusive findings documented in the literature, it may prove worthwhile to further investigate whether a relationship exists between cognitive and affective response to costume reproductions and interpretive programmes. If a relationship does exist, further research should be conducted to determine whether the relationship is positive or negative.

5. Based on the findings of this study, further research needs to be conducted to determine visitors'

cognitive and affective response to uniforms worn for interpretive purposes at historic sites. This research should include visitors' response to the style, colour and component parts of the uniform.

6. In the present study a number of children in the Costume Group noted that they would like to wear clothing similar to that worn by the interpreter. It might prove worthwhile to investigate children's cognitive and affective responses to wearing costume reproductions while participating in an interpretive programme.

7. The interpreter who participated in the study made the comment that she felt more comfortable conducting the interpretive programme while wearing the costume reproductions than while wearing the Alberta Culture uniform. She felt that the children's response towards her was more positive when wearing the costume reproductions. Such a comment indicates that further research needs to be conducted which evaluates the interpreter's response to wearing costume reproductions.

8. Because children of various ethnic backgrounds participated in this study it became evident that more research needs to be conducted which addresses the effects of demographic variables on cognitive and affective response. The data retrieved from such research would aid the historic site programmer to plan and develop

interpretive programmes that are relevant to all historic site visitors.

Recommendations Based on the Literature

9. The literature (Cooper Cole, 1985) notes that individuals are more likely to be attracted to original artifacts than to reproductions because the former has more associative meaning. However, due to the lack of quantitative data which deals with the communicative effectiveness of real objects versus reproductions, it may prove worthwhile to investigate visitor cognitive and affective response to the use of costume reproductions versus original costumes when displayed within a historic environment. Data concerning visitor response should be collected in three areas. These areas include visitor response to the use of costume reproductions; visitor response to the use of original costumes; and visitor response to the use of both costume reproductions and original costumes together.

10. Blackstock (1982), Irving-Wright (1977) and Severa (1979) stress that when using costume reproductions, authenticity must be strived for in the design and construction of the garment and the deportment of the garment when worn by the interpreter. Research should therefore be conducted in the area of visitor response to costume reproductions and the appropriate/inappropriate deportment (carriage and body movements of the interpreter,

hairstyle, makeup and accessories worn by the interpreter) for the interpreted period. Blackstock (1982) and Severa (1979) also note that the public views costume reproductions as the truth regardless of their degree of accuracy. However, this opinion needs to be tested empirically.

11. The review of the literature revealed that there was very little research which evaluated the technical aspects of producing costume reproductions and how decisions made during production influences the authenticity of the garment. Technical aspects which need to be investigated include the following: a) use of different methods for producing garment patterns; b) use of different construction techniques; and c) use of different materials. Finally, it may prove worthwhile to investigate the effect of long term use on durability, appearance, hand and drape of costume reproductions and how the use of different materials and construction techniques effects the end use and the longevity of the reproductions.

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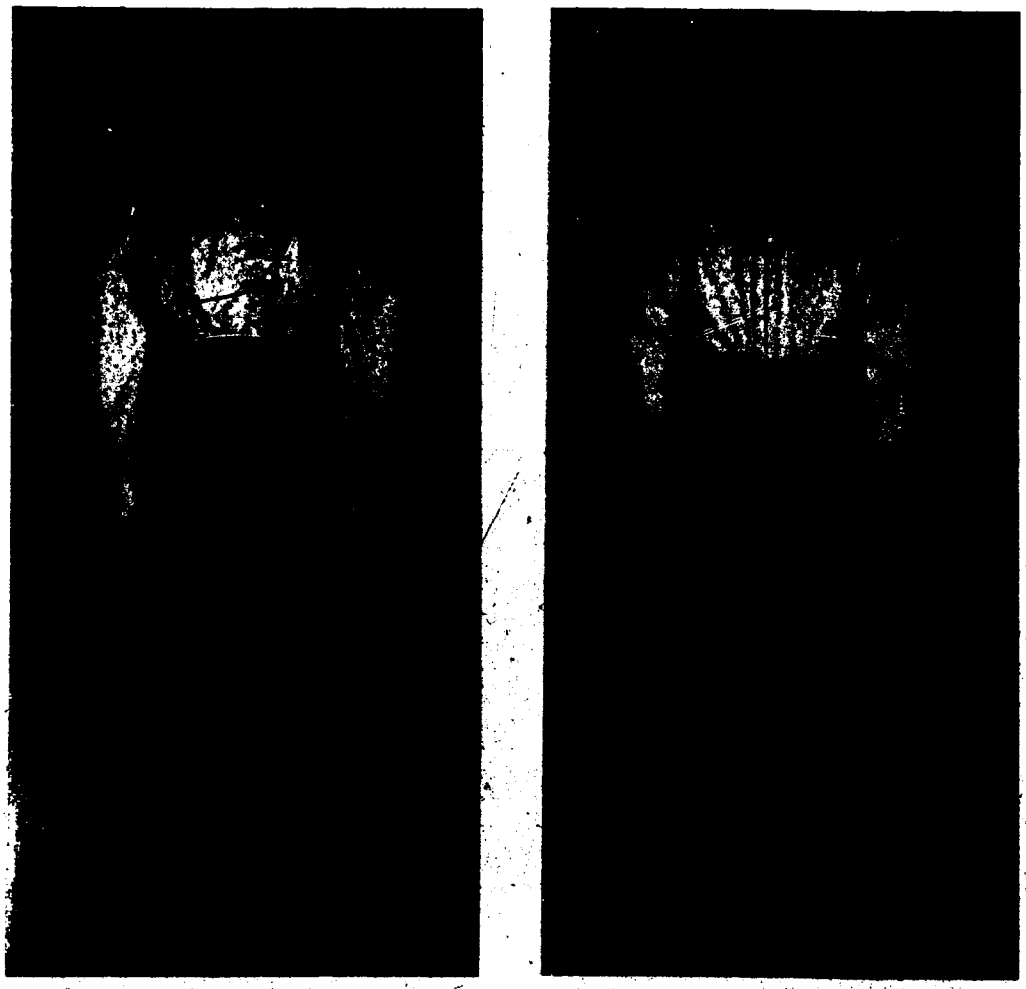
Appendices

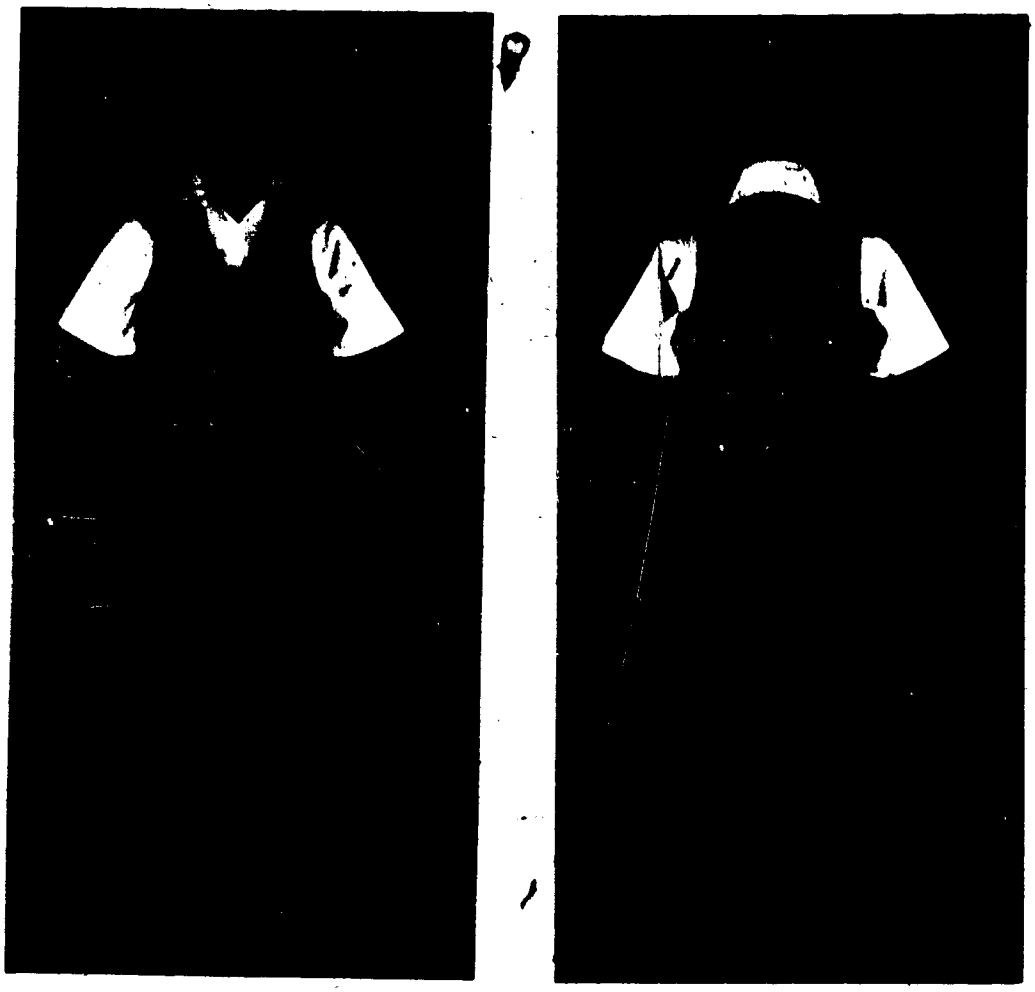
Appendix A

Photographs of the Two Different Clothing Outfits Worn by the Interpreter

A. Costume Reproductions



B. Alberta Culture Uniform

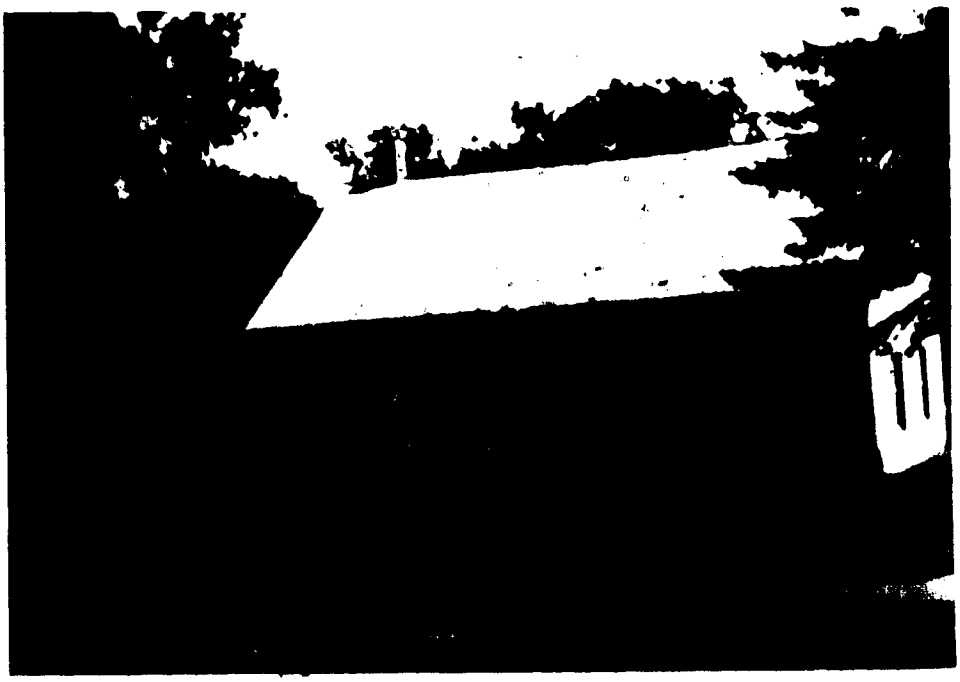


Appendix B

Photographs of the Victoria Settlement

Front View of Clerk's Quarters.

Back View of Clerk's Quarters



Pakan United Church

Appendix C

Interpretive Programme Objectives

An Interpretive Programme Matrix was developed by Historic Site Services for the Victoria Settlement. The Matrix has four levels of interpretive information which move from general to specific in content (theme, subtheme, subtheme elements, and messages). The Matrix also indicates what media form should be used to relay specific information to specific audiences.

The three themes (most general level of interpretive information) which were developed for the Matrix are as follows:

1. The establishment, development, and decline of the Hudson Bay Post, Fort Victoria.
2. The establishment, development, and activities of the Methodist Mission at Victoria.
3. The development and decline of the Victoria Settlement (Pakan).

It is from these three themes that eighteen messages (most specific level of interpretive information) were developed, the content of which was to be relayed to school children during their formal school tour using the specific media as outlined in the Matrix. From the eighteen messages learning objectives were developed which deal with the establishment and growth of Fort Victoria and the Methodist Mission. The learning objectives were then evaluated against the programme presented to grade four and five

students. Those objectives not relevant to the programme were eliminated.

The learning objectives are listed below.

Learning Objectives (Cognitive)

1. Students are to know who established the Victoria Mission so that they can identify the correct answer in a multiple choice question.
2. Students are to know from what the McDougall's first home at Victoria was constructed so that they can identify the correct answer in a multiple choice question.
3. Students are to know the name of the Indian tribe that was friendly to the settlers at the Victoria Mission so that they can identify the correct answer in a multiple choice question.
4. Students are to know why the Victoria Mission was established so that they can identify the correct answer in a multiple choice question.
5. Students are to know how the McDougalls ensured an adequate food supply for the winter months so that they can identify the correct answer in a multiple choice question.
6. Students are to know the name of the disease that caused numerous deaths at Victoria in 1870 so that

they can identify the correct answer in a multiple choice question.

7. Students are to know who established Fort Victoria so that they can identify the correct answer in a multiple choice question.
8. Students are to know what determined Fort Victoria's location so that they can identify the correct answer in a multiple choice question.
9. Students are to know what the Natives traded in order to receive blankets, axes, tobacco, tea, and other goods so that they can identify the correct answer in a multiple choice question.
10. Students are to know how furs were transported so that they can identify the correct answer in a multiple choice question.
11. Students are to know what structure was built in 1892 to transport people across the North Saskatchewan River so that they can identify the correct answer in a multiple choice question.
12. Students are to know the games that George Kennedy and his family played so that they can identify the correct answer in a multiple choice question.
13. Students are to know what name was given to the Victoria Settlement in 1887 so that they can identify the correct answer in a multiple choice question.

14. Students are to know the name and location of the oldest building in Alberta which is still standing on its original site so that they can identify the correct answer in a multiple choice question.
15. Students are to know some of the colours of women's clothing during the fur trade era so that they can identify the correct answer in a multiple choice question.
16. Students are to gain a visual awareness of what women wore during the fur trade era (c 1895) so that they can identify the correct line drawing in a multiple choice question.
17. Students are to gain a visual awareness of what George McDougall would have worn at the Victoria Mission during the fur trade era so that they can identify the correct line drawing in a multiple choice question.
18. Students are to gain a visual awareness of items indicative to the lifestyle of Fort Victoria's last clerk and his family so that they can match the correct line drawing to the correct word in a match-up question. The items chosen for matching are as follows: boater, buttonhook, Carron stove, jew's harp, nightdress, straight razor, rogan, ruler, slate, and straight pen.

Affective Objective

1. Students are to like the costume reproductions worn by the female interpreter. Like or dislike will be measured by the responses given on the affective questionnaire.

Appendix D

THE VICTORIA SETTLEMENT INTERPRETIVE PROGRAMME

Colour: _____

Pretest Number: _____

Date: _____

School: _____

DEMOGRAPHIC QUESTIONNAIRE: PRETEST

PLEASE ANSWER THE FOLLOWING QUESTIONS BY CHECKING THE APPROPRIATE RESPONSE OR GIVING THE NECESSARY INFORMATION.

---

1. You are:

   a girl _____

   a boy _____

---

2. You are in grade _____.

---

3. How old are you?

   8 _____ 9 _____ 10 _____ 11 _____ 12 _____

   other _____

---

4. Have you been to the Victoria Settlement before?

   yes _____

   no _____

OBJECTIVE QUESTIONNAIRE: PRETEST

For each of the questions select the best answer from the choices given. Circle the letter in front of the answer you choose.

FOR EXAMPLE:

The Koala looks most like a

a. dog

b. monkey

(c.) teddy bear

---

1. The main food that many of the Plains and northern Indian tribes ate was

a. corn

b. deer meat

c. moose meat

d. pemmican

---

2. During the fur trade era the meat of this animal was in demand.

a. beaver

b. deer

c. buffalo

d. moose

---

3. During the fur trade era the fur of this animal was in demand.

   a. beaver

   b. buffalo

   c. deer

   d. fox

---

4. The Victoria Mission and Fort Victoria were located on the banks of the

   a. Bow River

   b. South Saskatchewan River

   c. North Saskatchewan River

   d. Smoky River

---

5. At one time Fort Victoria was a

   a. mission

   b. trading post

   c. both a and b

---

6. During the fur trade era what was used to transport supplies over long distances on water?

   a. cable ferry

   b. river raft

   c. ship

   d. York boat

THANK YOU VERY MUCH FOR YOUR HELP. ENJOY YOUR VISIT!

Appendix E

THE VICTORIA SETTLEMENT INTERPRETIVE PROGRAMME

Colour: _____

Number: _____

School: _____

OBJECTIVE QUESTIONNAIRE: POSTTEST

For each of the questions select the best answer from the choices given. Circle the letter in front of the answer you choose.

FOR EXAMPLE:

The capital of Alberta is

a. Calgary

(b.) Edmonton

c. Red Deer

---

1. The Victoria Mission was named after

a. John McDougall's wife

b. George McDougall's wife

c. The Queen of England

d. the Prime Minister's wife

---

2. The McDougall's first home at Victoria was a

a. brick and stucco house

b. buffalo skin tent

c. log cabin

d. sod hut

---

3. The Indians who were friendly to the settlers at the Victoria Mission were the

   a. Blackfoot

   b. Cree

   c. Saroee

---

4. The McDougalls started the Victoria Mission to teach the Natives

   a. about the Methodist religion

   b. how to read and write

   c. how to farm

   d. all of the above

---

5. To make sure that they had plenty of food for the winter months the McDougalls

   a. traded furs at Fort Victoria for food

   b. stored vegetables from their garden and buffalo meat from the hunt

   c. sent away for food from the catalogue

   d. none of the above

---

6. What sickness caused many people to die in 1870?

a. chickenpox

b. polio

c. red measles

d. smallpox

---

7. Who built Fort Victoria?

a. Canadian National Railway

b. Canadian Northern Railway

c. Hudson's Bay Company

d. Methodist Church

---

8. Why was the land where Fort Victoria was built chosen?

a. number of animals

b. number of settlers

c. pretty scenery

d. transportation

---

9. The Natives received blankets, axes, tobacco, [illegible], and other goods in return for

   a. corn, wheat, and other grains

   b. moccasins, beadwork, and other clothing items

   c. scouting and guiding

   d. pelts, hides, and buffalo meat

---

10. Before furs were transported they were pressed into

   a. bales

   b. barrels

   c. boxes

   d. bundles

---

11. What was built in 1892 to carry people across the river?

   a. bridge

   b. cable ferry

   c. river raft

   d. steam boat

---

12. What games did George Kennedy and his family play?

a. charades and cards

b. checkers and cribbage

c. monopoly and cribbage

d. scrabble and cards

---

13. In 1887 the Victoria Settlement was renamed

a. Pakan

b. Lamont

c. Smoky Lake

---

14. The oldest building in Alberta still standing on its original site is the

a. Clerk's quarters at the Victoria Settlement

b. Factor's home at Fort Edmonton

c. McDougall school in Edmonton

d. Pakan United Church at the Victoria Settlement

---

15. Some of the colours of the women's clothing during the fur trade era were

a. black and white

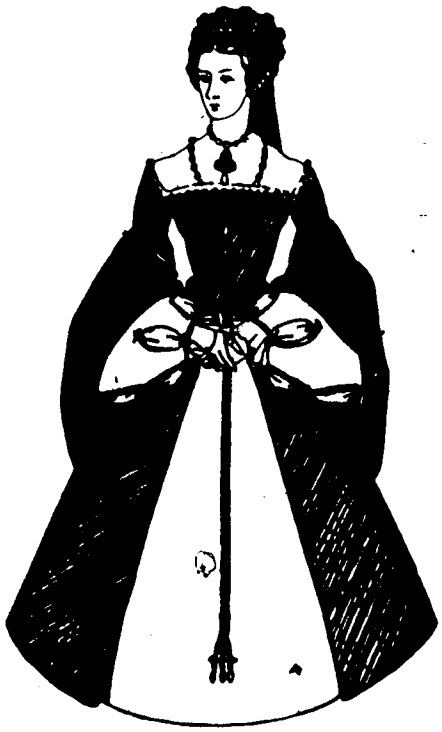
b. blue and green

c. brown and yellow

d. all of the above

---

16. Circle the picture that you think looks like clothing women wore during the fur trade era.

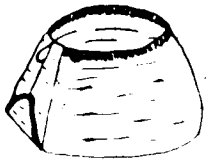


17. Circle the picture that you think looks like clothing George McDougall would wear while he was at the Victoria Mission during the fur trade era.

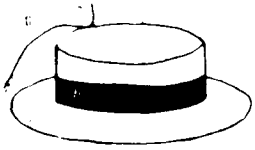
18. Match each picture below with its proper name. For each picture, place the letter beside the proper name in the blank in front of the picture.

_____ 1.

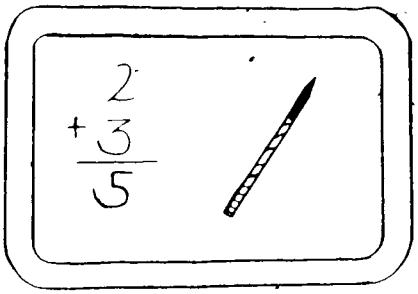
_____ 2.



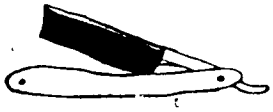
_____ 3.



_____ 4.



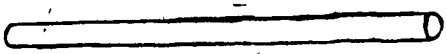
_____ 5.



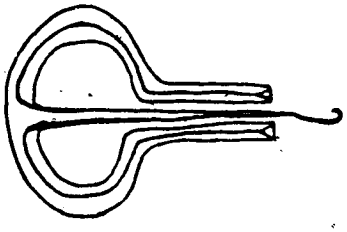
_____ 6.

_____ 7.

_____ 8.



_____ 9.



a. boater

b. Carron stove

c. nightdress

d. rogan

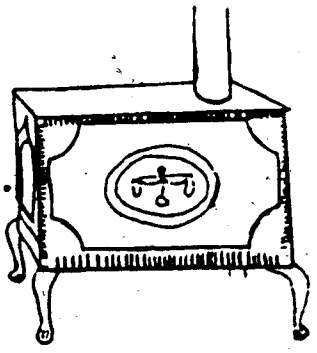
e. rule

f. slate

g. straight pen

h. straight razor

_____ 10.



AFFECTIVE QUESTIONNAIRE: POSTTEST

Circle the word(s) that best describe(s) how you feel about each of the following sentences.

FOR EXAMPLE:

Going to the beach is great fun.

super okay (so-so) not bad awful

---

19. How do you feel about coming to the Victoria Settlement today?

super okay so-so not bad awful

---

20. How interested in history are you in comparison to other subjects?

very interested somewhat interested not interested

---

21. How do you feel about the tour you have just taken?

super okay so-so not bad awful

22a. The guide made me feel like I had stepped back in time.

super okay so-so not bad awful

22b. How did the guide make or not make you feel like you had stepped back in time?

23. How do you feel about the guide?

super okay so-so not bad awful

24a. How do you feel about the clothing the guide wore?

super okay so-so not bad awful

24b. What did you <u>like</u> and/or <u>not like</u> about the guide's clothing?

25. I felt like I was a part of life during the days of the fur trade.

yes _____

no _____

26a. Would you like to see the guide dressed in different clothing?

yes _____

no _____

26b. If you answered yes to the question above, please write about what clothing you would like to see the guide dressed in.

Appendix F

University of Alberta
Edmonton

Canada T6G 2M8

Faculty of Home Economics

115 Home Economics Building, Telephone (403) 432-3824

Dear

Historic Sites Service and a graduate student from the Faculty of Home Economics, University of Alberta, are working together to evaluate the school programme presented to elementary school children at the Victoria Settlement. At this time evaluation has not been carried out to identify what message the students are receiving, how this message compares to that which the institution wishes to send, and whether the students like and enjoy the interpretive programme.

Although many schools return to the site each year, it is helpful for those responsible for programming at the site to have evaluation information on which to base decisions for future programming. This information could be used to alter the existing programme, or aid in developing new programmes. To obtain the required information, it is necessary to receive some feedback from the students. To obtain this, we need the students to answer some specific questions regarding the programme's content, and how they personally felt towards the programme.

If permission is granted, each student will answer a pretest questionnaire before the commencement of the interpretive programme, and a posttest questionnaire after the completion of the programme. The pretest will take approximately six minutes to complete, while the posttest approximately twelve minutes.

Participation in this study must be given on a voluntary basis. The students, or yourself acting on behalf of the students, may withdraw at any time. As well, anonymity of the school, teacher, principal, and students, as well as the confidentiality of the students' responses is guaranteed.

If you are interested in participating in this evaluation study please sign the consent form and return it in the enclosed postage-paid envelope.

If any questions or concerns should arise concerning the study either before the scheduled tour or after your visit, please do not hesitate to contact Karen Wells at the number listed below.

Thank you very much for your help and cooperation with this study.

Yours sincerely,

Karen Wells
435-0491

I _____ agree
name - please print
to allow the students of _____,
name of school
who are visiting the Victoria Settlement on _____
date
to participate in the evaluation of the elementary school programme held at the site. I understand that this participation requires the students to respond to two questionnaires, one before the commencement of the programme and one after the completion of the programme. I also understand that participation is voluntary and that I may withdraw at any time.

_____
Signature

_____
Phone number

Appendix G

Comments Made by the Children With Regards to the Open-ended Questions

"How did the guide make or not make you feel like you had stepped back in time?

Costume Group

"The clothing [costume reproductions] made me feel like I had stepped back in time."

"By dressing up in those clothes [costume reproductions] and by knowing what everything was called."

"When she made me feel like I stepped back in time I felt super, because it seemed like you lived long before your parents were born, and that made me feel older and weird!"

"Yes the guide did when I was inside the house, but the pavement outside looked to [too] modern."

Uniform Group

"I felt like I stepped back in time [because of] the way the guide explained things."

"Like when we went into the house it just made me feel back in time and I think everything there must be anteek [antique]."

"The guide made me feel exselent [excellent]."

"She let us feel the furs."

"I really didn't get the feeling, but I really enjoyed learning and seeing what their [Hudson Bay Clerk's] house looked like!"

"She didn't."

"I didn't feel like I was back in time because there were some things that weren't in the past."

"What did you like and/or not like about the guide's clothing?"

Costume Group

"I would love to dress in them [the costume reproductions]."

"I wouldn't mind to have that kind of clothing."

"I would like to wear some clothing like that."

"There was nothing I didn't like about the clothes because it looked like a lot of fun wearing them. Also the clothes made me go back in time."

"I liked the clothes [costume reproductions] because they were just like they wore."

"I liked the clothes [costume reproductions] because they were old fashioned and made you feel more comfortable."

"I loved the clothing."

"I liked the desinge [design]."

"I liked the way her arms [sleeves] were"

"I did not like it because it wasn't in [the] style of now adays."

"I liked everything except the colour of them [costume reproductions]."

Uniform Group

"I wouldn't want to wear that clothing!"

"It [uniform] didn't look old."

"It's [uniform] so old!"

"I hate her vest."

"It [uniform] looked like a person with rags on."

"I didn't like clothes [uniform] because it was not old fashion."

"It [uniform] was kind of plain and yucky!"

"I didn't really like the colour of them."

"What clothing would you like to see the guide dressed in?"

Costume Group

"I would like to see a man dressed in the clothes the men wore in those days."

"I would like to see how Mrs. McDougall dressed."

"Cool cloth"

"Modern clothing"

Uniform Group

"I would like her to dress like normal people."

"Maudern [modern] clothing, kind of business looking."

"Up to style clothing."

"Jean clothes"

"I would like to see the guide dress in the white dress [on display in Clerk's Quarters]."

"The type they showed in the pictures"

"I'd like to see her dressed in the clothing that ladies wore to dances and parties back then."

Appendix H

Background Information about the Victoria Settlement

The Victoria Settlement is located on the bank of the North Saskatchewan River, off Secondary Highway 855 near the town of Smoky Lake, Alberta. It was initially started by the Rev. George McDougall in 1862 as a Methodist Mission to the Cree Indian and Metis of the area. Because the buffalo were fast disappearing, it was also intended to introduce agriculture to the people in an effort to supplement their dwindling food supply.

In 1886 the Hudson's Bay Company established a fort at Victoria. They were attracted by the transportation possibilities, the large number of people coming to the mission and by the fur potential of the area.

In the late 1860's settlers from the Red River area of Manitoba began to move in and set up small farming operations. A grist mill was built by the Hudson's Bay Company to supply the milling needs of these people. Other industrial operations including gold and coal mining took place along the river banks. In 1897 an oil well was drilled across the river from the settlement. Lumbering operations also took place along the river.

The settlement was by no means cut off from other areas of settlement in Alberta. The Victoria Trail led from Edmonton to Victoria and on to Saddle Lake and Lac La Biche. Steam boats made regular stops at Victoria and brought goods and passengers. A ferry service operated in

one form or another from the 1890's to 1974. In 1886 the Dominion Telegraph line reached Victoria and in 1887 a mail service from Edmonton to Victoria via Fort Saskatchewan was established.

The first school was opened in 1864 by the Methodist Mission and in 1907 a hospital was built, also by the Mission. By the turn of the century a thriving community had grown up at Victoria, which was now called Pakan. However, in 1918 the Canadian Northern Railway by-passed Pakan to lay their tracks through Smoky Lake, nine miles to the north. It became the main service centre for the area and Victoria quickly began to wane in importance. Today, only two or three families occupy the area where once a thriving community stood.

During the summer of 1971 some renovations to the Clerk's Quarters were carried out and archaeological test pits excavated by the Provincial Museum and Archives staff.

On June 15, 1976 the site of Fort Victoria was designated as a Provincial Historic Resource. Extensive archaeological work was undertaken by the Archaeological Survey of Alberta and the Department of Anthropology, University of Alberta in 1974 and 1975. The restoration of the Clerk's Quarters began in 1977 and was essentially completed in 1980. Furnishings research was prepared by the Historic Sites Service and furnishings acquisition done by the Provincial Museum. The site was opened to the

public on June 21, 1981, with the official opening on August 29, 1981.

Appendix I

Map of the Victoria Settlement