The Effects on Indian Students Who Participated in Wechihtowin - A Social Simulation Game Based on the Operation of a Federated Co-operative

A Thesis
Submitted to the Faculty of Graduate Studies in Partial Fulfillment of the Requirements for the Degree of
Master of Education in the Indian and Northern Education Program
University of Saskatchewan

by
Donald Raymond Northey
Saskatoon, Saskatchewan
October, 1977

Copyright 1977 Donald Northey
The author has agreed that the Library, University of Saskatchewan, may make this thesis freely available for inspection. Moreover, the author has agreed that permission for extensive copying of this thesis for scholarly purposes may be granted by the professor or professors who supervised the thesis work recorded herein, or in their absence, by the Head of the Department or the Dean of the College in which the thesis work was done. It is understood that due recognition will be given to the author of this thesis and to the University of Saskatchewan in any use of the material in this thesis. Copying or publication or any other use of the thesis for financial gain without approval by the University of Saskatchewan and the author's written permission is prohibited.

Requests for permission to copy or to make any other use of material in this thesis in whole or in part should be addressed to:

Head of the Indian and Northern Education Program
College of Education
University of Saskatchewan
SASKATOON, Canada
ACKNOWLEDGEMENTS

I wish to express my sincere thanks to Ms. Del Koenig and Dr. Jim Thiessen, as members of my graduate committee, for their assistance in completing this thesis and Mr. Audie Dyer who gave willingly of his time as my advisor. Thanks is extended to Cathy Littlejohn for her assistance in proof reading this thesis.

To the staff and students in Chief Taylor School in Onion Lake, Saskatchewan, I extend my hearty thanks for letting me share part of their lives. A special thanks is extended to the members of the grade eight class for their co-operation in this project:

Gail Belly                  Corrine Lewis
Darlene Cannepatatoe       Roger Lewis
Rhonda Cardinal            Wilson Mountain
Bev Carter                 Janet Naistus
Jean Child                 Harvey Nightwalker
Jeff Dillon                Carl Skeenun
Wendy Dillon               Elizabeth Waskewitch
Verna Dillon               Clifford Whitstone
Gerald Harper              Darwin Whitstone
Willie Harper              Julie Whitstone
Arnold Lewis               Denis Wolf

As well, I would like to thank the College of Graduate Studies which granted a graduate scholarship for the 1975-76 term.

Finally, a special thank you to Tag's Misatim who stoically accepted the time that this thesis took.
ABSTRACT

One of the main purposes of this study was to develop a social simulation game based on the operation of a federated co-operative. An investigative research study was conducted to measure empirically the effect of this social simulation game, Wechihtowin, on self-esteem, powerlessness, economic efficacy, co-operativeness and attitude towards the future of a group of Indian grade eight students. In addition, this study attempted to analyze the operation of the social simulation game in order to suggest appropriate changes in it.

A premise of this study was that appropriate learning strategies have to be found and appropriate curriculum materials developed to meet the needs of Indian students. It was anticipated that the social simulation process would be appropriate. Whereas there is presently a dearth of literature on Indian students' involvement in the social simulation process, this research study contributes to the available literature on this topic.

A pretest-posttest control group, experimental design was chosen to test the research hypotheses. The hypotheses stated that the participants would show a significant positive change in self-esteem, economic efficacy, powerlessness, co-operativeness and view of their future as a result of participating in the social simulation game: Wechihtowin.

The control group consisted of a class of 17 grade seven Cree students while the experimental group consisted of 20 grade eight Cree students at the same school. The subjects responded to a series of self-report written instruments: a powerless scale developed by Splilka, a self-esteem
scale by Dreyer, a series of semantic differential scales developed by Dreyer and an economic efficacy and co-operative scale develop by the researcher. These tests were administered two weeks prior to the experimental groups participation in Wechihtowin. These same tests were administered to the control and experimental groups on completion of the social simulation game seven weeks later.

An analysis of covariance was conducted on the data with the pre-test score as the covariate and the posttest score the dependent variable. The independent variable was membership in the control or experimental group. The level of significance was set at .05.

The hypothesis which postulated that the co-operative groups would divide their respective dividends evenly among the members rather than on some other basis such as the amount sold or produced was analyzed descriptively. Three of the four co-operative groups divided their dividends evenly among their members thus supporting this hypothesis.

The hypothesis which stated that the participants would show a significant positive increase in their view of their future was supported. The hypotheses dealing with a positive change in self-esteem, powerlessness, economic efficacy and co-operativeness were not supported at a statistically significant level.

Written comments on a questionnaire administered on completion of Wechihtowin, student verbal comments, and observations of student activities indicated that the students enjoyed the social simulation game approach, improved their ability to co-operate and gained an understanding of how a co-operative business is operated. The students were able to operate a successful business and declare a dividend for their members.
on completion of the activity. Certain changes in Wechihtowin were sug-
gested but it was concluded that there were sufficient positive results
in this investigative study to suggest further implementation and
testing of Wechihtowin. It was concluded that the social simulation
process offers a meaningful learning approach for Indian students. Addi-
tional social simulation games should be developed and tested.
# TABLE OF CONTENTS

| LIST OF TABLES | x |
| LIST OF FIGURES | xi |

## Chapter

### 1. INTRODUCTION

- STATEMENT OF THE PROBLEM ............................................. 2
- ASSUMPTIONS OF THE STUDY ........................................... 3
- LIMITATIONS TO THE STUDY ............................................ 3
- HYPOTHESES .................................................................. 4
- ADDITIONAL QUESTIONS FOR INVESTIGATION ......................... 5
- DEFINITION OF TERMS .................................................... 6
- SIGNIFICANCE OF THE STUDY ........................................... 7

### 2. REVIEW OF THE LITERATURE

- SOCIAL SIMULATION GAMES .............................................. 9
  - A Definition ............................................................. 9
  - Historical Overview of Social Simulation Games ............. 14
  - Claims of Advocates of Social Simulation Games .......... 16
  - Indian Students and Social Simulation Games .............. 23
  - Summary ..................................................................... 24
- CO-OPERATIVES ............................................................. 25
  - Origin of Co-operatives .............................................. 25
  - Comparison of Co-operatives and Other Types of Business 28
  - Native People and Co-operatives .................................. 33
  - Summary ..................................................................... 38

vii
# TABLE OF CONTENTS (cont'd)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELF-ESTEEM, ALIENATION AND POWERLESSNESS</td>
<td>38</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>38</td>
</tr>
<tr>
<td>Alienation and Powerlessness</td>
<td>42</td>
</tr>
<tr>
<td>Summary</td>
<td>45</td>
</tr>
<tr>
<td>CURRICULUM MATERIALS</td>
<td>45</td>
</tr>
<tr>
<td>Curriculum Materials to Increase Indian Students' Self-Esteem</td>
<td>45</td>
</tr>
<tr>
<td>Simulated Economic Systems in the Classroom</td>
<td>49</td>
</tr>
<tr>
<td>Summary</td>
<td>52</td>
</tr>
<tr>
<td>3. PROCEDURES OF THE STUDY</td>
<td>53</td>
</tr>
<tr>
<td>EXPERIMENTAL DESIGN</td>
<td>53</td>
</tr>
<tr>
<td>The Sample</td>
<td>54</td>
</tr>
<tr>
<td>Data Collection Procedures</td>
<td>56</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>56</td>
</tr>
<tr>
<td>Analysis of Data</td>
<td>58</td>
</tr>
<tr>
<td>Summary</td>
<td>59</td>
</tr>
<tr>
<td>4. THE SOCIAL SIMULATION GAME</td>
<td>60</td>
</tr>
<tr>
<td>RATIONALE</td>
<td>60</td>
</tr>
<tr>
<td>OBJECTIVES</td>
<td>61</td>
</tr>
<tr>
<td>PLAYER ROLES</td>
<td>62</td>
</tr>
<tr>
<td>PLAYER GOALS</td>
<td>64</td>
</tr>
<tr>
<td>PLAYER RESOURCES</td>
<td>64</td>
</tr>
<tr>
<td>EXTERNAL FACTORS</td>
<td>65</td>
</tr>
<tr>
<td>The Social Simulation Game as Compared to Real Co-operatives</td>
<td>65</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (cont'd)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-operative Product</td>
<td>68</td>
</tr>
<tr>
<td>WIN CRITERIA</td>
<td>69</td>
</tr>
<tr>
<td>PRESENTATION</td>
<td>70</td>
</tr>
<tr>
<td>5. PRESENTATION AND DISCUSSION OF RESULTS</td>
<td>72</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>72</td>
</tr>
<tr>
<td>PRESENTATION AND DISCUSSION OF RESULTS PERTAINING TO HYPOTHESES</td>
<td>74</td>
</tr>
<tr>
<td>OTHER QUESTIONS CONSIDERED IN THE STUDY</td>
<td>84</td>
</tr>
<tr>
<td>Relevance of Social Simulation Games for Indian Students</td>
<td>91</td>
</tr>
<tr>
<td>6. SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS.</td>
<td>99</td>
</tr>
<tr>
<td>SUMMARY</td>
<td>99</td>
</tr>
<tr>
<td>CONCLUSIONS</td>
<td>100</td>
</tr>
<tr>
<td>RECOMMENDATIONS FOR CHANGES IN THE SOCIAL SIMULATION GAME WECHIHTOWIN</td>
<td>102</td>
</tr>
<tr>
<td>SUGGESTIONS FOR FUTHER RESEARCH.</td>
<td>104</td>
</tr>
<tr>
<td>RECOMMENDATIONS FOR EDUCATORS.</td>
<td>104</td>
</tr>
<tr>
<td>IMPLICATIONS OF THE STUDY</td>
<td>106</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>108</td>
</tr>
<tr>
<td>APPENDICES</td>
<td></td>
</tr>
<tr>
<td>A. STUDENT INVENTORIES</td>
<td>117</td>
</tr>
<tr>
<td>B. QUESTIONNAIRE</td>
<td>123</td>
</tr>
<tr>
<td>C. PARTICIPANT'S INFORMATION AND FORMS</td>
<td>126</td>
</tr>
<tr>
<td>D. SAMPLES OF DISPLAY MATERIAL</td>
<td>140</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>1. Types of Business Organizations in Canada</td>
<td>30</td>
</tr>
<tr>
<td>2. Sex Distribution of Subjects in Control-Experimental Group</td>
<td>55</td>
</tr>
<tr>
<td>3. Pretest and Posttest Means of the Experimental and Control Groups on Self-esteem Inventory</td>
<td>73</td>
</tr>
<tr>
<td>4. Analysis of Covariance on My Future Scores Between Experimental and Control Groups</td>
<td>74</td>
</tr>
<tr>
<td>5. Analysis of Covariance on Self-esteem Inventory Between the Experimental and Control Groups</td>
<td>75</td>
</tr>
<tr>
<td>6. Analysis of Covariance on Myself Scores Between the Experimental and Control Groups</td>
<td>76</td>
</tr>
<tr>
<td>7. Experimental Group's Adjusted Means on Inventory C Items</td>
<td>77</td>
</tr>
<tr>
<td>8. Comparison of Pretest and Posttest Means on Inventory C Items for the Experimental Group</td>
<td>78</td>
</tr>
<tr>
<td>9. Analysis of Covariance on Economic Efficacy Between the Experimental and Control Groups</td>
<td>79</td>
</tr>
<tr>
<td>10. Pretest-Posttest Means on Economic Efficacy for Experimental and Control Groups</td>
<td>79</td>
</tr>
<tr>
<td>11. Pretest-Posttest Means on Economic Efficacy Items for Experimental and Control Groups</td>
<td>80</td>
</tr>
<tr>
<td>12. Analysis of Covariance on the Powerlessness Score Between the Experimental and Control Groups</td>
<td>82</td>
</tr>
<tr>
<td>13. Comparison of Pretest and Posttest Means on Co-operation for the Experimental and Control Groups</td>
<td>83</td>
</tr>
<tr>
<td>14. Summary of Data on Operation of the Co-operatives</td>
<td>90</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>Interrelationships: Social-Simulation-Games</td>
</tr>
<tr>
<td>2.</td>
<td>Co-operation</td>
</tr>
<tr>
<td>3.</td>
<td>Organizational Structure of a Co-operative</td>
</tr>
<tr>
<td>4.</td>
<td>Pretest-Posttest Control Group Design.</td>
</tr>
<tr>
<td>5.</td>
<td>Organizational Structure of a Federated Co-operative</td>
</tr>
</tbody>
</table>
Chapter 1

INTRODUCTION

"Saskatchewan Indians behind proper grade – 60%" (Saskatchewan Indian Cultural College, 1975, p. 2) is one of the many headlines which indicates that the present educational system is not meeting the needs of Indian students. The cause of this situation lies in part with the organization of the school system itself and the teaching strategies employed therein. Bryde, Couture and Splitka have studied the feelings of alienation, low self-esteem and powerlessness of Indian students at the junior high school level. These feelings have been linked to a poor performance in school which consequently led to an early departure from school.

Developments in the simulation game field have particular relevance to the above situation. Simulation gaming is an alternative teaching strategy which is reported to positively affect the students' feelings of powerlessness and his self-esteem (Boocock, 1968). Although research in the area of simulation games is relatively new, most researchers conclude that simulation games may be as effective a teaching approach as traditional approaches. An increased feeling of efficacy, a feeling that one can understand and effect the world around oneself, has been attributed to involvement in simulation games (Abt, Boocock, Coleman, Vogel). By actively participating in a simulated situation, the student tries out strategies and sees the consequences of his actions. This may lead to a gain in self-confidence and a lowering of feelings of
powerlessness and alienation.

Adolescence is a time when the student's feelings of self-esteem are in question (Coleman, 1961). This period of development is especially crucial for Indian students as they have the added dilemma of relating to, and operating in, two value systems: Indian and non-Indian. Studies have indicated that Indian students at the junior high school level have a lower self-esteem than their non-Indian counterparts (Bryde, Couture, Splilka).

Materials have been developed to try and change Indian students' self-esteem in a positive direction. In many cases the hypothesized effect has not been empirically tested.

Proponents of simulation games state that a simulation approach is especially appropriate with culturally different students, and with students who are achieving at a low academic level (Coleman, Inbar, Miller). Many Indian students at the junior high level would fit into these categories. However, there is a dearth of literature concerning the use and effect of social simulation games with Indian students.

STATEMENT OF THE PROBLEM

Thus, the problem of this study was to develop a social simulation game based on the operation of a federated co-operative for Indian junior high school students which would positively increase their feelings of economic efficacy, self-esteem, co-operativeness and decrease their feelings of powerlessness. In addition, this study had to measure statistically the change in these areas due to the social simulation game.
ASSUMPTIONS OF THE STUDY

In the process of designing and operating this project, the following assumptions were made:

1. A written test is a valid method of obtaining an estimate of a person's self-esteem and efficacy. The particular chosen tests are appropriate.

2. The subject's responses to the measuring instruments were an accurate reflection of true feelings.

3. One's feeling of self-esteem and efficacy can change in five weeks.

4. Items on the measuring instruments were understood equally by all the subjects.

5. The change in self-esteem and efficacy was due to the social simulation game.

6. The participants in the study have not participated in a social simulation game before.

7. There was an area for positive development in the subjects' attitudes of self-esteem, economic efficacy, powerlessness and co-operation.

8. Due to the length of time between the pretest and posttests, the practice effect was minimal.

LIMITATIONS TO THE STUDY

This study was conducted under the following limitations:

1. The participants could not be randomly assigned to the control group and the experimental group due to the organization of the classes in the school and the availability of students.

2. No attempt was made to show that this particular simulation game was more effective than other simulation games or other learning
approaches in changing self-esteem or efficacy.

3. No attempt was made to correlate, on an itemized basis, the pretest-posttest responses.

4. The posttest was conducted following the completion of the simulation game. This means the long term effect of the simulation was not known.

5. The change in self-esteem, economic efficacy, powerlessness, and co-operativeness was attributed to the treatment, the social simulation game. The control group and experimental group may have had additional experiences between the pretest and posttest which were different.

6. No attempt was made to measure the student's change in self-esteem, economic efficacy, powerlessness, and co-operativeness in relation to age, academic achievement, sex, or factors other than membership in the control or experimental group.

HYPOTHESES

This study attempted to test the following hypotheses:

1. The participants will show a significant positive change in self-esteem after playing Wechitowin: A Co-operative Social Simulation Game.

2. The participants will show a significant positive change in economic efficacy after playing Wechihtowin: A Co-operative Social Simulation Game.

3. The participants will show a significant decrease in their feelings of powerlessness after playing Wechihtowin: A Co-operative Social Simulation Game.

4. The participants will show a significant positive increase in their view of their future.
5. The participants perceived ability to co-operate will increase as a result of playing Wechihtowin: A Co-operative Social Simulation Game.

6. More co-operative groups during the game will decide to divide the dividends evenly among their members rather than in proportion to some other factor such as the amount produced or the amount sold.

ADDITIONAL QUESTIONS FOR INVESTIGATION

Other questions considered in the operation of the social simulation game were:

1. What aspects of the social simulation game proved too cumbersome or lacked credibility for the participants?

2. Did the participants display a co-operative attitude in the operation of the simulation?

3. Did the participants recognize the importance of recording various business transactions such as the issuing of cheques, the recording of income and expenditures, and the payment of wages?

4. Did the participants recognize and attempt to solve such problems as dealing with poor attendance, obtaining financial capital, and correcting low production in the operation of their own business?

5. Did the participants operate a business which produced a dividend?

6. Did the participants enjoy being involved in the social simulation game?

7. Is the social simulation game approach an appropriate learning approach for Indian students?
DEFINITION OF TERMS

**Game** - A contest with players who are operating under a set of restraints or rules in order to reach an objective.

**Simulation** - An operating model or simplified representation of a larger system.

**Co-operative** - A self-help, democratic organization controlled and owned by a group of people co-operating in order to meet an economic need.

**Indian** - A person of Indian ancestry irrespective of legal status.

**Self-esteem** - A feeling of self-worth as measured by the "National Survey of American Indian Education Student Inventory A, and Inventory C."

**Economic Efficacy** - A feeling of being able to understand and effect the economic world around you, as measured by items on Inventory B-economic efficacy.

**Powerlessness** - A term used interchangeably with "low efficacy" as measured by the "Powerlessness" scale developed by Splitka (Inventory B).

**Social Simulation Game** - An activity based on a model of human interaction with the players mutually and/or competitively attempting to reach some goals under a given set of restraints or rules.

**Wechihtowin** - A Cree word meaning co-operation. It is used as the title of the social simulation game (Wechihtowin: A Co-operative Social Simulation Game) designed by this researcher to teach the principles of co-operation and the operation of a co-operative.
**Alienation** - "The estrangement of the individual from his social, political, cultural, ideological or psychological reference points" (Franklyn, 1969:1).

**SIGNIFICANCE OF THE STUDY**

This social simulation game was developed to meet several relevant and pressing needs of Indian students. In the past educators have viewed cultural differences as hindering the Indian students' progress in the educational system. There is a growing awareness among educators of Indian students that the educational system can and must change to meet the learning approaches utilized by Indian people. There is sufficient evidence to suggest that the social simulation approach is a useful means to reach this goal.

Many students, Indian students among them, are not familiar with the business world outside the classroom. If they are going to operate successfully in the economic sphere during adulthood, and view themselves positively in this process, then a knowledge of the business world is vital.

Part of the worth of a learning or teaching approach, aside from imparting knowledge, is the effect that the process has on the students' self-esteem. Indian students are especially in need of learning experiences which produce a positive growth in their feelings of self-worth. It is anticipated that the social simulation game process can contribute to this growth.

There is little development in the area of educational research which pertains to the development and testing of social simulation games with Indian students. This study can make a significant initial step in
providing data on this topic. By applying knowledge gained from this study to the content and process of education, a positive growth in the development of the Indian student’s self-esteem could occur.
Chapter 2

REVIEW OF THE LITERATURE

The present study necessitated that the major areas in the review of the literature be the following:

1. Social Simulation Games
2. Co-operatives
3. Self-esteem
4. Powerlessness
5. Curriculum Materials

SOCIAL SIMULATION GAMES

A Definition

Social simulation games have been designed to meet a variety of objectives, and vary in their presentation. This diversity provides some difficulty in arriving at a common definition of "social simulation games." For the purpose of this paper, a social simulation game was defined as an activity based on a model of human interaction with the players mutually and/or competitively attempting to reach some goals under a given set of restraints or rules. To clarify this concept, each word is defined separately and the areas of overlap are specified in the following paragraphs.

Looking at the first term, a 'social' incident is the interaction of two or more individuals. It can take many forms from a discussion between two political leaders to a wrestling match. However, an event
carried out by an individual in isolation would not be considered a social incident.

A 'simulation' is based on a model which is a representation of reality. A model demonstrates the functional relationship between two or more variables. In order to make the model operant, a simulation involves a simplified representation of the system or process that is to be simulated. At the same time the simulation must present the key concepts involved. Reality is simplified as in the case of the Game of Legislation (King, 1968:4). In order to make the game manageable, only the bargaining and compromising processes were emphasized; not all aspects of the legislative process model were included.

"The important thing is not that the model look like the real object, but that its components respond in the same way as in real life" (Boocock, 1968:63). The simulation, Community Response (Inbar, 1966), illustrates this point. Inbar (1966) formulated a model based on "some of the important problems with which individuals are faced when a community is hit by a localized disaster" (p. 124). Each player was given a role in the hypothetical community and some of his interests described. Information was provided to the players concerning events as they would happen during a disaster. The players interacted and took certain action in response to the information and in light of their roles. By this process the simulation engendered an interplay of the variables outlined in the model. The players reacted similarly to the way people do in actual disasters (Inbar, 1966).

The degree of structure in a simulation can vary. Some simulations are very structured and delineated in organized steps. Many board type simulations are of this type. On the other end of the continuum are
simulations which have a minimum of structure. For example, Heap (1971: 33) designed a simulation in which the players were informed that they had landed during the seventh century on Hfrae, a planet physically similar to the earth. The players had to decide what plan of action to take. This approach permitted a choice from a wide variety of strategies and solutions. Thus, the moves in a simulation game can be defined and structured so that the player proceeds in a predetermined direction or the simulation can allow for alternative action strategies.

According to Coleman, the social environment is incorporated into the simulation in two main ways. The first approach lets each player provide part of the social environment for the other players.

The rules of the game establish the obligations upon each role and the players, each acting within the rules governing his role, interact with one another. The resulting configuration constitutes a social subsystem and each player's environment consists of that subsystem. (Coleman, 1968:131)

Thus, the actions and reactions of the players in the simulation constitute part of the social environment.

A second approach utilizes environmental response rules which are established to make the interactions in the simulation representative of the social interactions in the real world. In the simulation, Star Power (Shirts, 1969), the situation was arranged such that one group of players in the simulation had more power than other groups as represented by certain points. These points gave one group the power to make certain decisions. By the point system certain aspects of social class and power were introduced into the social environment.

A variety of other rules are employed in social simulations. One such rule is the procedural rule which states how the simulation is to be put into play. These rules incorporate assumptions about the social
processes which are involved. If an impasse in the playing of the simulation is arrived at, mediation rules are called into action to resolve this situation. Linked to this are the behavioral constraint rules which designate the role obligations of each position. Usually the players' goals are specified and the available means of accomplishing these goals are outlined. If the rules of the simulation are broken, then the police rules are called into action. These types of rules help to incorporate a social environment as designated by the model upon which the simulation is based. Thus, a social simulation is based on and tries to represent some aspect of human interaction in a process involving the active participation of the players.

A 'game', on the other hand, is not necessarily based on a model of reality; nor is its merit measured by its ability to mirror reality. A variety of words are associated with the word 'game' -- "diversion, pastime, contest, rules, play" (Oxford Dictionary, 1964:501-02). Games are usually thought of as amusements and sports. For others such as professional hockey players, they may be very serious matters. A game can involve only one person as in the card game of solitaire whereby the player takes his chances with lady luck. However, if the game is to be a social game more than one player needs to be involved.

Abt (1966) classified formal games (those having some explicit rules) in three ways. In showdown games, the players do not interfere with each other but use their powers and luck to take some action with the results being compared. Games of this type are poker, golf, and treasure hunts. In strategy games "opposed players interfere with each others' exhibited performances" (Abt, 1966:6). Chess is an example of a strategy game. The third category of games involves a combination of the
above two with an initial strategy approach followed by a showdown, as in the game of car racing. Involved in each of these types of games are elements of skill, realism, fantasy, and chance.

A game can be defined as a contest involving adversaries attempting to win similar objectives. This definition only defines one category of games -- those involving competition. Some other games involve co-operation among the players to achieve a common goal such as in the game "Broken Squares" in which the players have to co-operate so that each person in the group can complete his square.

A social game then is an activity involving two or more people attempting to competitively or co-operatively achieve an objective in a limiting context.

What then are the interrelationships among the three terms: "social," "simulation" and "game"? The diagram below illustrates the general relationships.

Figure 1

Interrelationships: Social-Simulation-Games

In category A are games such as rummy and poker. They are not designed to be based on social models although they do involve people in a social
situation. Therefore, they are labelled social games.

Not all social simulations are games. For example, a social scientist may be interested in studying people's reactions to certain types of advertisements on television. Advertisements could be developed and viewed. The subjects in the experiment would decide on which product they would purchase. This would be an example of a social simulation (Category B).

The shaded area in the diagram represents social simulation games which combine elements of both gaming and simulation in a social situation. Social simulation games are therefore based on certain models of human interaction with the players mutually and/or competitively attempting to reach some goals under a given set of restraints or rules.

Historical Overview of Social Simulation Games

A brief overview of the development of social simulation gaming is discussed in this section. The gaming aspect of child development is an area which predates written history. "The playing of games exists in all cultures, and indeed can be viewed as a universal feature of human societies" (Watson, 1975:42). Children "role played" adults from their respective cultures in order to test out and practice roles which they would one day play. The first stages of this development concentrated on family roles or roles of significant others, and later expanded to other roles in the community. Indian males, for example, practised with small bows and arrows in preparation for their future role as hunters.

The gaming element of human interaction continued into adulthood as well.
Game playing functions as a sanctuary from work because of man's social nature. Man is social, not only in the sense that physical survival and mental development depends upon his acceptance in an ongoing human group, but social in the sense of his need to participate actively with other people and his desire to be in unison with them. (Watson, 1975:44)

The modern games of baseball and soccer illustrate this point as they provide a social outlet for the participants.

The Prussians brought the development of war simulation games to the forefront in the early 19th century. Their purpose was to provide opportunities for practising skills necessary for efficient action in military manoeuvres (King, 1968:7). Development of social simulations in other areas of human interaction came later in the 20th century. In the equally dangerous area of the business world, the value of simulation games as learning activities was recognized in 1959. At this time the **AMA Top Management Decision Simulation** was developed (Inbar, 1966:39). Teams representing companies made decisions on such things as budgeting and marketing. The potential of social simulation gaming for research purposes was recognized by the social sciences following this development in the business world.

"Simulation techniques are centuries old; it is only their exportation into the classroom that is a recent phenomena" (Taylor, 1972:18). During the early 1960's the development of simulation games for the classroom began to grow. Boocock (1968:15) notes "it was a time of great and diffuse enthusiasm for a technique without much concern with collecting 'hard' evidence to support the enthusiasm." She labelled the period 1963-65 as the "post-honeymoon" stage in which controlled experiments were attempted but which often produced inconclusive results. From this came the realization that simulation games did not solve all educational
problems, that existing tools did not accurately measure the impact of simulations and that present games needed improvement. As a result some believed that simulation games taught but did not understand why, what or exactly how; while others believed that simulation games produced limited effects. To those who were not participants in this development area, the findings added fuel to their arguments that simulation games were of no more value than other learning approaches. Since 1965 the field testing of simulation games has increased providing a larger pool of data upon which to evaluate various claims associated with the study of simulation. There is still difficulty in arriving at generalized conclusions as experiments may be situation specific. That is, a particular simulation game may have produced a statistically significant change in students in one trial and not in another for a variety of reasons such as differing academic levels of the subjects and varying student-teacher relationships. This problem is not specifically related to simulation games, but has been a problem of educational research in general. Thus, more widespread testing of simulation games is still required.

The vast majority of literature which deals with simulation gaming deals with its development, implementation and research in the United States. Canadian development in this area has lagged behind that of American educators and researchers. This is, by necessity, reflected in the following account of the claims of simulation gaming.

Claims of Advocates of Social Simulation Gaming

The application of social simulation gaming to educational settings is relatively recent; consequently, the tools to measure the
learning in these situations are not fully developed.

According to developers of social simulation games (Duke; Inbar; Boocock), these learning situations involve a change in the traditional view of the role of the teacher from that of a judge and giver of information to that of a coach and research director. "Much of the rebellion and the conformity, the alienation and subservience of students can be traced to this role [i.e. of judge] of the teacher" (Coleman, 1961:323). Instead of this situation where the teacher makes the rules, simulation games have various types of rules built into the game which regulate student action. These rules are seen as necessary by the students for the operation of the game. Simulation games "alter the relationship between the educator and the learner by mediating that relationship and creating a new experience which brings both together as equals" (Evans, 1974:22).

Several studies have indicated that the type of person managing the simulation game affects the impact that it has (Inbar, 1966:138). Social simulation games entail a certain philosophical orientation towards the role of a teacher in a learning situation before a teacher will feel comfortable utilizing them in the classroom (Abt, 1966).

Philosophically Dewey (1966) and Bruner (1966) lent support to the use of social simulation games as they both saw learning as an active not a passive process for the student. Dewey saw games as an integral aspect of classroom activities which permitted students to have a direct input into the learning process. "Games provide a superb means of getting children to participate actively in the process of learning -- as players rather than spectators" according to Bruner (1966:95). Through vicarious experiences the students experience life-like situations and make decisions or choices. If the purpose of the school is to "provide
students with an understanding of the larger world such that they can operate effectively in it when they leave school" (Boocock, 1966:26), then simulation games have a role to play in schools.

Simulation games "demonstrate to players consequences of behavior by having them experience those consequences" (Inbar, 1972:136). As a result of seeing the consequences of their actions, simulation developers state that participants then see the connection between the activity and the outcome (Boocock, 1966). This enables cause and effect relationships to be grasped. By seeing that their actions have an effect, the participants in a social simulation game increase their sense of potency or personal efficacy which improves their performance (Tansey, 1969). Vogel (1973) used the social simulation game, Metro Government with grade six Edmonton students and concluded that the treatment had significantly increased the participants' political efficacy.

Some of the situations with which students need to be familiar are too impractical or dangerous to allow students to face the real situation. For example, in real life enrolment would decline sharply if students experienced directly the causes and actions involved in world armed conflicts. However, in Crisis (Pigut Simile, 1969), a simulation in which several nations are involved in a conflict over obtaining a certain mineral, the students experienced life-like situations; but in a controlled environment.

In addition simulation games can compress experiences into a shorter time span which permits the students to see the consequences of their action in a shorter period of time than in real life. In the simulation game, Life Careers (Inbar, 1972), the participants made choices in their education that affected their selection of a career which in real
life would have taken several years to experience. In this simulation game they experienced the effect of these choices in several hours.

In most occidental schools the logical linear thinking process is emphasized (McLuhan, 1966:157). Not all students utilize this same thinking process. Intuitive thinking, or immediate insight, is a different thought process which social simulation games purport to encourage. According to Abt (1970:22), "simulation games stimulate, reward and judge intuitions according to pragmatic standards rather than doctrinal ones." Our schools, on the other hand, do not always reward or encourage intuitive thinking. Simulation sessions are generally novel, or at least the specifics of the situation are, which makes it more difficult for the participant to approach simulation games in a cookbook fashion. Alternative strategies are available and choices must be made. This permits intuitive thinking to be utilized (Taylor and Walford, 1972:58). At the same time intuitive thinking is enhanced by the knowledge and experiences that a person brings into the new situation. Because of this people can approach the same problem from different angles (Abt, 1970).

If a simulation is well constructed, participants can make judgments, take a course of action, see the consequences of their action and then change their strategy if necessary. Since social simulations have a variety of interplaying factors, a holistic intuitive approach can be a successful way to approach the problem (Abt, 1967). However, since at this time patterns of thought are difficult to measure effectively, little research has been produced which measures accurately the intuitive thought process as used in social simulation games.

Advocates of simulation games also state that these games provide a milieu in which students, who normally do not succeed in the traditional
classroom setting or on standardized tests, can experience success (Boocock; Hopkins; Vogel). Stoll (1970:39) stated that "it comes from well established research findings; namely, that there is no relationship between academic achievement and game performance." Lower achievers could, then, succeed in simulation games.

Simulation games have a value for the 'disadvantaged' student as they enable him to develop a sense that he can affect his environment and his future (Miller, 1969:16). "If a child feels that he can control the environment in simulation, then he will make an effort to understand and his performance will improve" (Tansey, 1969:21). Students feel that their standings are a result of their own actions (Inbar, 1972). Cause and effect relations can therefore be demonstrated, felt and understood. In the testing of the game, Life Career, it was found that it "provided a kind of experience lacking in their [adolescents from culturally different groups] own lives, a chance to have control over their actions" (Inbar, 1972:189).

According to Berry, success in the traditional classroom is very dependent on the student's reading ability and his performance on written tests. For students whose reading ability is low, success is not likely to occur. The result is less striving on the part of the student to meet the school's goals. However, success in a social simulation game is dependent on a number of factors such as the choice of an appropriate strategy and relationships to other participants (Abt, 1966). In social simulation games, behavior can be observed and evaluated, not the intention to behave in a certain way. Students do not discuss what they "would do" in a certain situation; they react and act in an on-going specific situation (Bookcock, 1966).

*Note: the rewards for the underachiever in the classroom
have often been minimal. In social simulation games participants have the opportunity to make choices in a situation which may be less threatening than in a large group situation. If the first choice is inappropriate, then they have a chance to choose an alternative strategy (Boocock, 1966). The relationship between the action and the reward is fairly specific and immediate. Gratification is not postponed until a mark is received at the end of the term (Abt, 1970). This means that students who are not futuristic oriented may be motivated. Underachievers often fall into this category. Additional rewards and benefits accrue from the peer group learning situation in simulation games. "Students subsequently learn from each other what they didn't learn by themselves" (Abt, 1967:6). Because of their means of evaluation, social simulation games introduce a new reward base into the classroom (Boocock, 1968).

The gap which many underachievers feels exists between their real world and the classroom is bridged by providing miniaturized representation of part of real life in the classroom setting. "One experiences in simulation the psychological reactions typically experienced when exposed to given structures. For this purpose, symbolic methods of teaching are weak substitutes for active methods like simulation" (Inbar and Stoll, 1972:260). This feeling of reality raises the motivation level of the underachiever as well as that of other learners.

Given the strong evidence that present methods of testing tend to discriminate against the non-verbal, the non-achiever, and the culturally deprived, it's not possible to test our belief that games are especially valuable for the poor school performer without designing new ways to measure learning. (Boocock, 1966:188)

Continued development and application of research into this whole area of the underachiever and social simulation games is needed.

Motivation is another area which has been widely discussed by
educators and simulation developers as well. Researchers have observed a high rate of individual involvement in simulation games (Inbar; Tansey; Taylor). "Games are autotelic in the sense of having the reward for engaging in them built in the activity itself. Being ends in themselves games generate a motivational force of their own from within" (Inbar, 1970:262). Students have indicated their interest in the simulation gaming process. For example, in the Election Game developed by Hopkin and associates, 87% of the participants found the game more interesting and challenging than other approaches used in their social studies class (Boocock and Coleman, 1966:63). Increased student motivation also has been commonly reported following simulation games. One indicator of this was the increased interest in the topic simulated after the sessions were completed. Postna's (1974) study of the use of a social simulation game based on American domestic history with high school students confirms Hopkin's findings.

After conducting a series of simulation games with 2,500 students in 17 schools, Sprague and Shirts concluded: "simulation games are feasible and potentially important means to help students become active, interested learners" (1966:1). Most researchers agree, then, that simulation games are and can be utilized to provide learning approaches which produce positive motivation in the learner.

As indicated simulation games are regarded as positive motivators, but opponents of simulation games question their ability to teach factual information. Boocock (1966:33) states that in addition to developing learning strategies, students have to learn specific factual information in order to make decisions. Experiments with Life Careers have shown that students learn factual knowledge in simulation games as
well as by other approaches (Boocock, 1966). Taylor (1972) reviewed a wide range of material and concluded that social simulation games are as effective as other teaching approaches in teaching factual information. At the same time, educational practices are not always determined by statistical data. For example, the lecture approach has not been proven to be more effective than all other approaches in teaching, but it still occupies many hours of a student's classroom experiences.

The points discussed under motivation, intuitive thought, under-achievers, and the role of the teacher are by no means conclusively proven at this point. The social simulation game approach is a relatively new development in the area of education and as such has experienced growing pains. Further research is needed to validate or disclaim the claims put forward by the advocates of social simulation games. Since social simulation gaming appears to have a lot to offer educators and students, further development, implementation and research are required.

Indian Students and Social Simulation Games

The following discussion deals with the involvement of Indian students in social simulation gaming.

Studies have been conducted with groups of culturally different children in the United States, but these students have been primarily of Mexican or Black descent, not of Indian descent. One exception to this situation was the research conducted with Indian people in Ecuador involved in a simulation game called Hacienda (Evans, 1974). This simulation game evolved from a survey of community concerns and issues revolving around the economic system on the hacienda. One conclusion reached was: "we
are left with a decided optimism that they [simulation games] are applicable in a variety of different cultural environments" (Evans, 1974:22).

Some information is available concerning simulation games "about Indian people." Richard Green (1975) developed a simulation game called Red Tape based on the experiences that Indian people have had when they came to urban centres. The participants in this study were non-Indian students in a Vancouver high school. "The potential of the simulation Red Tape, to positively alter the attitudes [towards Indian people] of the non-Indian participants to a statistically significant degree was realized" (Green, 1975:104). Significant for the development of this thesis was the fact that Green did not list any simulation games which were either employed with Indian students, or were developed concerning Indian people. Similarly, the literature from other sources is sparse. This does not necessarily mean that simulation games have not been used with Indian students, but it does mean that their use has not been reported to the public.

Only one article (Johnson, 1975) dealing with Indian people's involvement with social simulation games has been located. This social simulation game involves recognizing, selecting and solving perceived community needs. It was employed with Indian people of various age groups in Alaska. Johnson reported a favorable participant reaction to the use of the social simulation game. To date, he has not conducted any organized controlled research into this matter.

**Summary**

Social simulation games which are based on certain models of human interaction with the players mutually and/or competitively attempting
to reach some goals under a given set of restraints or rules have been introduced into some classroom only in the last 15 years. During this period, various claims have been made as to the advantages gained by employing social simulation games. Some of the claims are: they have the ability to compress time and actions, they provide opportunities to use intuitive thinking, they provide learning situations in which the underachiever may succeed, they highly motivate the students, they change the role of the teacher from that of a judge to one of a coach, and they develop a feeling that the person can affect his environment. Throughout the literature, reference is made to the advantages of social simulation games for the culturally different student. Although Indian students would fit into this group, very little literature has been written about the Indian students' involvement in this area.

It is generally agreed that simulation games are at least as effective as other teaching approaches, however, more research is required before the claims put forward by proponents of simulation gaming can be substantiated.

CO-OPERATIVES

The following discussion concerning co-operatives includes the origin of co-operatives, a comparison of co-operatives with other forms of businesses, and the involvement of Indian people in the co-operative movement.

Origin of Co-operatives

According to Webster (1970), co-operation means the act of working "together with another or others for a common purpose" (p. 312).
This idea is graphically illustrated in the diagram below (Department of Co-operation and Co-operatives, 1973:13).

Figure 2

Co-operation

By mutually agreeing to work towards a common goal, the mules, like people, can more effectively meet their needs. Co-operation has been a part of some human endeavors for centuries. For example, families of fishermen operated fishing vessels together and shared the catch during the time of Christ.

The birth of the modern concept of a particular kind of business organization incorporating co-operation occurred during the time of the industrial revolution in England. Working conditions in the Lancashire cotton mills, as in other areas of England during the industrial revolution, were deplorable. Hours of work were long, factories unsanitary and wages minimal. A wide range of individuals became dissatisfied with these conditions. Among these people were a group of weavers in the city
of Rochdale in the heart of the Lancashire cotton belt district.

A group of 28 individuals in Rochdale organized in 1844 to meet some of the needs of the workers caught in such an unfavorable situation (Chase, 1974:2). Among the members, they gathered twenty-eight pounds in order to initiate a co-operative store. Other groups had attempted such a venture prior to 1844, but had not succeeded.

The Rochdale group conducted business on a cash basis and charged market prices for their items. Earlier adventures had not succeeded due in part to the fact that they charged less than the market price for their products, consequently they operated at a loss. The Rochdale co-operative rebated each member's respective share of the savings at a later date in proportion to the amount of his purchases. In addition, the co-operative encouraged the members to reinvest their rebates in the co-operative for future development. Funds were set aside for education on co-operative ideas. In 1857 this small co-operative business sold $100,000 worth of goods (Chase, 1974:3).

The original Canadian experience with co-operatives began in Sydney Mines, Nova Scotia in 1863 (Dept. of Co-operation and Co-operatives, 1973:4). In Saskatchewan, the Territorial Council aided in the establishment of co-operative creameries in 1894 (Dept. of Co-operation and Co-operatives, 1975:57). Saskatchewan farmers emphasized marketing co-operatives concerned with selling such products as wheat and wool during the first quarter century of Euro-Canadian development. During the Depression of the 1930's, the emphasis switched to consumer co-operatives in order to obtain lower prices for such products as oil and implements for the members. As the economy and culture of the prairies changed, so did the concerns of the co-operatives. Co-operative
credit unions became part of the prairie scene in the late thirty's as did the life insurance co-operatives (Dept. of Co-operation and Co-operatives, 1975:59). These are both examples of service co-operatives as they do not deal in a tangible product such as wheat, but provide a type of assistance or service. These and other co-operatives have been an integral part of the growth and development of Canada and, in particular, Saskatchewan.

Membership in co-operatives around the world has greatly increased since the Rochdale Experiment. For example, 70,000,000 people were members of the International Co-operative Alliance in 1936 and by 1966 there were 215,000,000 members (Co-op Brief, 1973:4). Co-operatives are one of the fastest growing types of business.

Comparison of Co-operatives and Other Types of Business

If co-operatives are a type of business, how are they different from other forms of business? Both co-operatives and other businesses are based on economic activities. However, the investors in a non-co-operative business charge the user of their services in order to benefit themselves while the co-operatives "take advantage of capital for the benefit of the users of its services", i.e. its members (Co-op Brief, 1973:3). Thus, the co-operatives are there to meet the needs of their members by providing them with a product or service while other businesses are there to earn a profit for their investors.

Membership in a corporation, individual proprietorship or partnership is not limited to, or necessarily dependent upon, the person utilizing the services of the business organization. Membership is determined by the person's financial input. In a co-operative, membership is
dependent upon the acceptance by the co-operative membership and upon
the person's intended use of the co-operative. For example, if a wheat
marketing co-operative is established, then a person who earns his
living by fishing will not be a member. Thus, a co-operative is pri-
marily formed to meet the needs of its members.

Unlike corporations, voting power in co-operatives is not linked
to the amount of capital invested. Co-operatives are democratically
operated on the basis of one member, one vote.

Likewise in terms of financial return, a co-operative member's
share of the profit is not based on the amount of his financial invest-
ment, but on his utilization or patronage of the co-operative's services.
Owners or investors in other types of businesses do not have to use the
services of their businesses in order to get a return. For example, a
shareholder in I.B.M. does not have to buy a computer to gain a return
on his investment. He may decide to buy one of the products of the
"Venus Company" to solve his mathematical problems. If I.B.M. does make
a profit, the shareholder's dividend is in proportion to his financial
investment. A co-operative member, on the other hand, must use the ser-
vices or products of his respective co-operative in order to receive a
share of the dividends. Table I (Dept. of Co-operation and Co-operatives,
1974:6) summarizes some of these comparisons.

The structural organization of co-operatives is illustrated in
Figure 3 (Dept. of Co-operation and Co-operatives, 1973, #2:3).

Corporations may have similar structures but the shareholder's
voting power is related to the amount of his investment.

Co-operatives are not only a business, but a business plus as
they are formed to meet the social and psychological needs of their
<table>
<thead>
<tr>
<th>Who begins a business?</th>
<th>INDIVIDUAL OWNERSHIP</th>
<th>PARTNERSHIP</th>
<th>CORPORATION</th>
<th>CO-OPERATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>An individual</td>
<td>Two or more people</td>
<td>Investor-stockholder</td>
<td>Invester - owner - members</td>
</tr>
<tr>
<td>For whom is a business directed?</td>
<td>The public</td>
<td>The public</td>
<td>The public</td>
<td>For the members primarily also the public</td>
</tr>
<tr>
<td>Who makes the policy?</td>
<td>The individual</td>
<td>The partners</td>
<td>The board of directors elected by the investors - stockholders</td>
<td>The board of directors elected by the owner - members</td>
</tr>
<tr>
<td>How is it managed?</td>
<td>By the individual</td>
<td>The partners</td>
<td>The board of directors elected by the investors - stockholders</td>
<td>The board of directors elected by the owner - members</td>
</tr>
<tr>
<td>Who has voting privileges?</td>
<td>None needed</td>
<td>Partners</td>
<td>Shareholders</td>
<td>Shareholders</td>
</tr>
<tr>
<td>How many votes?</td>
<td>None needed</td>
<td>Each partner</td>
<td>One vote per common share of stock owned</td>
<td>One member one vote no matter how many shares</td>
</tr>
<tr>
<td>Where is the ownership invested?</td>
<td>Individual</td>
<td>Partners</td>
<td>Stockholders</td>
<td>Members</td>
</tr>
</tbody>
</table>

Table 1
Types of Business Organizations in Canada
(Dept. of Co-operation and Co-operative Development, 1974:6)
<table>
<thead>
<tr>
<th>Where does the capital come from?</th>
<th>INDIVIDUAL OWNERSHIP</th>
<th>PARTNERSHIP</th>
<th>CORPORATION</th>
<th>CO-OPERATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Individual</td>
<td>Partners</td>
<td>Stockholders</td>
<td>Members</td>
</tr>
<tr>
<td>How much interest on capital?</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Limited</td>
</tr>
<tr>
<td>What happens to the profits?</td>
<td>The individual decides</td>
<td>Partners decide</td>
<td>Divided to the stockholders according to number of shares</td>
<td>Distributed in proportion to use of service</td>
</tr>
<tr>
<td>What happens if business fails?</td>
<td>All property of individual is liable</td>
<td>All property of partners is liable</td>
<td>Assets of corporation are liable</td>
<td>Assets of co-operative is liable</td>
</tr>
</tbody>
</table>
Figure 3
Organizational Structure of a Co-operative

Members of a Co-operative
→ elect
  Board of Directors
    → which appoints
      Manager
        → who hires
          Staff

may have committees

→ Membership
→ Education
→ Building
→ Other
members in addition to economic needs. They are formed to meet economic needs and to satisfy other group needs of their members in a democratic way. They state that "each individual has inborn or human values and personal dignity" (Dept. of Co-operation and Co-operative Development, 1974:6). This and other basic tenets show the concern for the welfare of the individual and his human rights. Other types of businesses rarely state such principles as guiding the operation of their type of businesses.

Co-operatives, then, are associations of people co-operating in an economic endeavor of mutual self-help in order to provide services and/or goods for their members by following the principles listed below:

1. Voluntary and open membership
2. One member, one vote
3. Limited interest on investment shares
4. Savings distributed to members
5. Education in co-operative principles and practices
6. Co-operation among co-operatives. (Dept. of Co-operation and Co-op Development, 1974:3)

Native People and Co-operatives

As with the development of other co-operatives in Canada, the majority of the Indian co-operatives have been in the prairie provinces. Of the 145 incorporated Indian co-operatives in Canada, the prairie provinces account for 136, with Saskatchewan having 58 (Thalen, 1972:23).

Although co-operation has been an integral part of traditional Indian cultures (Mandelbaum, 1940), formal co-operative business organizations were not formed to meet economic needs. A dependency on outside sources of income, i.e. welfare payments, in recent years has discouraged
economic co-operation. Reference to any economic indices indicates that Indian people are suffering economically. For example, in 1974 the average annual earnings for Saskatchewan Indians was $1,532 compared to $9,997 for Saskatchewan non-Indians (The Saskatchewan Indian Cultural College, 1975:3).

Reserve economy has been characterized by J. Hull and P. Legg (1976:1-2) as lacking infrastructure such as roads and utilities, having high rates of unemployment and underemployment, having members with a low educational level, existing on externally generated income, and having money flow outside the community. These conditions present tremendous difficulties for economic development.

Co-operatives have been seen as "tools of self-help economically and socially" (Sprudz, 1966:21). With a Saskatchewan Indian unemployment rate of 72% and a high dependency on welfare payments, there is a definite need for economic development (Saskatchewan Indian Cultural College, 1975:14).

Provincial co-operative organizations believing that education about co-operatives should be promoted, have assisted in establishing some native organizations. The Saskatchewan provincial government has helped organize co-operatives such as a farm co-operative for Metis near Willowbunch in 1953 (Wright, 1956:176). On Indian reserves the federal government has promoted the co-operative concept with some loans, grants and technical assistance through its Economic Development Fund. Loans or grants, provided through government sources, often form the initial funding for the Indian co-operatives; not the members themselves.

In northern Saskatchewan, co-operatives have never had a smooth road to follow. The first co-operative was established in 1955 at
Ile a la Crosse. This co-operative and others have faced bankruptcy several times, but have been put back on their feet with government loans (Boschman, 1964). At the same time it should be kept in mind that many small businesses established at any given time in Canada dissolve after a few years of operation. Financial success in the business world is not an easy matter for Indians or non-Indians.

Indian co-operatives have been involved in a variety of areas: farming, retail food outlets, fishing, handicrafts and others. Several common problems have arisen. Since co-operatives are often linked to the government through their original funding, there is a tendency for some members to feel the co-operative is actually government owned and run instead of being run by the membership. Vital Morin (I.N.E.P., 1977) pointed out that co-operative members do not feel a commitment to their business. This lack of commitment is evidenced by the members buying at other stores than the co-operative.

In addition, whether the government body is the federal government or the Department of Northern Saskatchewan, a dependency cycle sometimes evolves, based on previous relationships. A conversation in a report by Boschman illustrates this. It occurred in the community of Ile a la Crosse when Boschman first arrived to work with the co-operative (Boschman, 1964:15).

So you are the new boss? [community member]
No. [Boschman]
No. Who is then?
Are you a member of this co-op?
Yes.
Well, you are the boss.
How come?
You own the store. You elected a Board of Directors to act for you. The Board hired a manager to run the store for you. That makes you the big boss.
This dialogue indicates that some co-op members are dependent on others to make decisions for them. A basic misconception exists as to what a co-operative is. At one time, Indian people had to secure written permission from the Indian agent before they could leave the reserve. When operating a co-operative, they are now expected to make decisions on how thousands of dollars are to be spent. This is no easy task. Some officials have encouraged the co-operatives to make decisions on their own while other personnel have encouraged the dependency relationship by making decisions for the members in order to 'protect' them.

Central to the operation of a co-op is a willingness of the members to co-operate. This concept operated in the traditional buffalo hunt in which members of the hunting party were given certain tasks which had to be performed at specific times. A sharing of the kill followed. As there has been a lack of economic activity in which to practice this tradition of co-operation in recent times, some change has occurred. In communities where jobs are scarce and welfare the mainstay of life, jealousy exists when someone gets a position such as the manager of a co-operative (I.N.E.P., 1977). Thus, leaders in a co-operative, such as board members, have to be willing to meet and try to overcome a great deal of criticism.

The Department of Co-operation and Co-operative Development realizes this difficulty as they state in their extension philosophy:
"Never allow the majority to become an observing critic rather than a partner" (Boschman, 1964:9).

Another source of difficulty has been the aspect of credit or accounts receivable. Some co-operative members are of the opinion that if the co-operative is "theirs", then they should be able to buy things
on credit. Subsequently, haste is not a necessity in paying back this amount to 'themselves' (I.N.E.P., 1977). With the co-operative's accounts receivable growing, the co-operative's working capital dwindles. Thus the purchasing power of the co-operative is lowered. Buying on credit has been a part of the members previous relationship with the Hudson's Bay Company or independent traders in most communities. This practice worked well because the store owners were almost assured of collecting the arrears as there was often no nearby competition.

With the advent of better transportation, the community members can, and do, go to larger communities for some of their purchases. The community of Patuanak is a good example of this. The co-operative store competed with the Hudson's Bay and did reasonably well when the community was only accessible by barge or plane. They originally operated on a cash basis (Boschman, 1964:42). When transportation by vehicle became easier and they changed to the credit system, the accounts receivable increased (George, 1977). Recently Patuanak co-op returned to a cash basis, but experienced difficulty with this system.

Added to this issue of the repayment of credit is the difficulty that the manager or board of directors has when they try to create pressure on other members, who are usually related to them, to repay this credit. There is a strong hesitancy to do so, as this would endanger social relationships in their small community.

Mr. O. Beatty defined a co-op as "people working together" (I.N.E.P., 1977). Co-operation which is so essential for the operation of a co-operative can not be assumed to be present and active. It must be felt, practised and promoted by the membership if the co-operative is to be a successful venture.
Summary

The modern version of a co-operative owes its origins to the Rochdale group which established a successful co-op in England in 1843. Co-operatives have since been particularly active in the prairie provinces of Canada.

As a type of business, a co-operative is an association of people co-operating in an economic endeavor of mutual self-help in order to provide services and/or goods for its members.

Co-operatives have been viewed as a means to help Indian communities economically. In operating the co-operatives, problems have been encountered. Some of these problems are: lack of sense of direct ownership by the membership, a dependency on others for decision making, outstanding accounts receivable, and low levels of apparent co-operation. Many co-operatives in Indian communities have been established without proper training and orientation to the basic principles of business and co-operatives in particular. Little emphasis has been placed on the basic social processes involved in the operation of a co-operative.

SELF-ESTEEM, ALIENATION AND POWERLESSNESS

Self-Esteem

For the potential of the oak lives vibrating within the atomic structure of the acorn, as does the flower live within the bud and the Self within a man. (Subramuniya in Purkey, 1970:28)

As this study attempts to determine the change in self-esteem as a result of playing the social simulation game Wechihtowin, the concepts of self and self-esteem are discussed briefly.

The concept of self received minimal attention from the behaviorists of the 1920's through the 1940's (Purkey, 1970:9). Later Carl Rogers
(1969) began to emphasize the concept of self and its importance to an individual's behavior and adjustment. Rogers, unlike Freud, saw the self as being consciously known by the individual. The self does not develop in isolation but is dependent on the feedback received from other people who are relevant to the person, i.e. significant others. The expectations that significant others have of us are internalized into our self-perception. Involved in the concept of the self, according to Dreyer (1970) was an awareness of who one is, of one's relationship to others, and of who one would like to be. Self-esteem, or how a person feels about his worth, is the evaluative component of the self-concept (Ziller, 1973).

Observation of behavior and written questionnaires have been used to measure a person's self-esteem. In the past, anthropological observations and judgments were made to determine the Indian person's self-esteem rather than self-reports by Indian people. Investigators observed behavior and deducted the Indian person's self-esteem from these actions.

Measuring devices were developed for use with the general North American population (Dreyer, 1970) and in turn have been utilized with Indian people. Difficulties arose in interpreting the results of these tests when they were employed with Indian people. In some cases, the actual wording on the tests proved confusing because of the level of English attained by the subjects. In addition, words may have had different cultural referents which could lead to different interpretations by the subjects.

The separation of an individual self from his social context, which white western society has traditionally made, may not apply to Indian societies where greater stress is placed upon the individual co-operating with society than upon his competition against others in his society. (Dreyer, 1970a:4)
Gabe (1966:12) found that although the Indian adolescent self-concept that he studied in five tribal groups in California had certain aspects in common, "the data indicated there are also important and definite variations as to tribal perception of self." This makes the generalization of findings difficult.

A further problem arises in determining who the individual is using as a comparative standard to measure his own self-esteem. If an Indian person compares himself to non-Indians rather than other Indian people, he may arrive at a different estimate of his self-esteem. This problem was illustrated in a study by Havighurst (1970) in which Indian students in homogeneous Indian schools had a more positive self-esteem than Indian students in predominantly non-Indian schools. Havighurst's conclusion was that the Indians in the homogeneous school used Indian people as a comparative standard where as the Indians in the predominantly white school compared themselves to white students. Whiting (1974:5) stated that "for the culturally different child in American society, the looking glass into which he gazes may reflect a sense of inferiority, because of his race; and a sense of powerlessness because of his economic status." Many Indian people live below the poverty line. This low standard of living, relative to other groups, may be reflected in lower feelings of self-esteem on the part of Indian students (Whiting, 1974).

As part of the National Study of American Indian Education, Dreyer (1970) administered two self-reporting instruments to over 2,000 subjects in order to establish the reliability and concurrent validity of these tools. One instrument measuring self-esteem was based on an earlier test of Coopersmith (Appendix A). The second measure instrument consisted of a semantic differential scale based on self-evaluation on seven pairs of
adjectives (Appendix A). This measure involved less reading than required by the adapted Coopersmith test, but more abstraction on the part of the student. Dreyer's (1970:21) conclusion was "while the two instruments could not be said to have measured exactly the same theoretical construct i.e. the 'phenomenal self' they did appear to have measured aspects of the same construct." Phenomenal self is a conscious awareness of who one is and how one rates oneself in relationship to others. In addition, Dryer compared the self-esteem of these Indian students with non-Indian students in similar economic situations and found no significant differences.

At the same time, the study reported that not all Indian groups had the same concurrent validity on both tests which led the authors to conclude:

The nature of the phenomenal self was not the same for all Indians and that the cultural context of an Indian group was a significant factor in determining the degree to which our two instruments succeeded in measuring the self. (Dryer, 1970:22)

These and other findings indicate that cultural and economic factors influence self-esteem and provide problems when attempting to estimate the self-esteem of Indian students. Change in Indian student's self-esteem will likewise be a difficult concept to measure.

Although he did not refer specifically to Indian students or to social simulation games, Purkey (1973:50-56) has outlined a group of six factors which assist in developing a classroom atmosphere that promotes positive self-esteem. Purkey's points are relevant to Indian students and can be facilitated by social simulation games. These factors can be summarized as below:

1. Challenge - having relevant issues which are demanding
academically but have goals which are attainable by the students.

2. Freedom - allowing students to make decisions, to make mistakes and to be free from threats of failure.

3. Respect - feeling students are capable, and worthy of respect and trust.

4. Warmth - possessing commitment to the students and being accepting, facilitative and supportive of the students.

5. Control - firm and demanding atmosphere.

6. Success - opportunities for success and rewards for performing successfully.

The use of social simulation games provides the teacher with an opportunity to develop the kind of atmosphere outlined above which would allow Indian students to develop a positive self-esteem.

Alienation and Powerlessness

Linked to the idea of self-esteem is the concept of alienation. Alienation is defined as "the estrangement of the individual from his social, political, cultural, ideological or psychological reference points" (Franklyn, 1969:1). If an individual has a low self-esteem, then he is likely to feel alienated (Coopersmith; Coleman; Dryer).

Various authors have indicated that Indian students particularly at the adolescent stage have greater feelings of alienation than non-Indians (Bryde; Couture; Splitka). Hawthorn (1966:123) concluded that "one of the major deterrents to economic advancement of Indians is their widespread anomie, their attitudes of apathy and alienation." Equating low self-esteem with alienation, Havinghurst's conclusions differed from the above authors (1970:8). When comparing Indian and non-Indian boys of
the same socio-economic level he found, on the average, no reliable differences in degree of alienation. This finding did not hold for all the Indian groups as the Plains Indian males, for example, were significantly different in a negative direction when compared to the non-Indian students. Indian females showed a significantly lower level of self-esteem, or in other words, a higher level of alienation than the non-Indian females. However, Havighurst's general conclusion was that Indian students have a satisfactory level of self-esteem and are not more alienated than other non-Indian students.

Bryde's (1966) work with grade eight Sioux students on the Pine Ridge Reservation in South Dakota presented different conclusions from those of Havinghurst. Bryde indicated that the Sioux students on the average succeeded on par, or at a higher level, on national tests of academic achievement than non-Indians until grade seven. At this point, the student's academic achievement was at a lower level than the national average which he called the "cross-over effect." In an attempt to analyze the reasons for this situation, Bryde administered the Minnesota Multiphasic Personality Inventory Tests which were developed to measure a person's level of mental health. He concluded that the Indian student's period of adolescence was a time of "greater personality disruption and poorer adjustment . . . with feelings of rejection, depression, anxiety and tendencies to withdrawal, plus social, self and emotional alienation" (Bryde, 1966:111). Bryde's results indicated that Indian adolescence is characterized by a greater degree of alienation than that of non-Indian students. Couture (1972) replicated Bryde's study with Blood and Cree students in Alberta and found similar results to those of Bryde.

Many authors have indicated that as alienation increases, the
student's achievement in school decreases (Coleman; Purkey; Splika).
Franklyn (1969) studied Indian and non-Indian grade nine students in the Northwest Territories and found a negative relationship between alienation and achievement. Brookover disagreed with this premise. In his study with various students of different backgrounds, he concluded that a significant portion of those students indicating a high self-esteem were not performing at high academic levels (Purkey, 1970). His explanation for this situation was that some students, especially the socially and culturally "disadvantaged", felt that they could succeed in school, but viewed the system as threatening, irrelevant or both (Purkey, 1970: 19). Following either argument, the end result is the same — some students are unable to achieve in the school system.

Involved in the concept of alienation is the idea of powerlessness — a feeling of helplessness and futility which develops as a result of seeing the world as presenting complex, overwhelming problems (Splika, 1970:27). Bryde (1966:95) mentioned this feeling when he stated that Indian students felt caught by forces beyond their control. Splika (1970: 82) measured this feeling of powerlessness with a written self-report test. The responses of seventh and eighth grade Indian and non-Indian students were compared. The Indian students had a significantly greater degree of powerlessness than the non-Indians. Coleman (1966:64) indicated the importance of this feeling of powerlessness when he stated: "a pupil attitude factor which appears to have a stronger relationship to achievement than do all 'school' factors together is the extent to which an individual feels that he has control over his destiny."

Authors differed in their estimation of the level of alienation and powerlessness of Indian students as compared to non-Indian students.
Some authors stated that the Indian students are only as "alienated" as non-Indians where as others found Indian students are more alienated. Even though there are differences of opinion, the concepts of alienation and powerlessness have to be dealt with, and can be useful tools in studying the apparent lower educational attainment of Indian students.

Summary

Various tools have been developed for use with the general populous to measure an individual's feelings of self-esteem, alienation and powerlessness. These same measures have been applied to Indian students. Problems of language, cultural differences and differences in comparative standards among others present difficulties in applying these same tests to Indian students.

Researchers have produced different conclusions in this area. Dreyer concluded that Indian students had as high a feeling of self-esteem as other students. Other authors such as Bryde and Splika concluded that Indian youth are more alienated than non-Indians.

CURRICULUM MATERIALS

Curriculum Materials to Increase Indian Students' Self-Esteem

Projects have been carried out with Indian students in order to increase their positive self-esteem. Many curriculum developers believe that the study of traditional history and culture serves as a vehicle to bring about this positive change in self-esteem.

One such curriculum developer was Bryde. After completing his study of the mental health of Oglala Sioux adolescents, Bryde wrote a book, Modern Indian Psychology (1971), for use with this same group of
students. Basically it explained the value system of the traditional Sioux culture and showed how these same values could be related and applied to the present situation faced by Indian people. No detailed studies have been reported explaining the effects of this book on the students.

Other material has been developed based on Indian content. For example, the Cree Way Project at Rupert House has produced over 200 booklets for use with several Indian communities in northern Quebec. Some books were based on legends and other traditional aspects of the Cree people in this area. Other materials depicted the present way of life of these people. Some attempts were made to implement the traditional methods of learning with the material as evidenced by the play aspect associated with the word find puzzles (Cree Way, 1975). The Saskatchewan Indian Cultural College (1973) produced several books based on Cree, Chipewyan, and Sioux legends. As well, social studies curriculum material was developed and implemented with primary Indian students by the Saskatchewan Indian Cultural College (1973). No studies to date have been conducted to test the effect of this material.

In the Northwest Territories various reading series such as the Tendi Series (Curriculum Department, N.W.T., 1971) were written on Indian themes. It was felt that by having appropriate pictures and themes, Indian students would have more positive models of identification. McCluskey (1973) did a content analysis of this series and found that it portrayed more non-Indian values than it did Indian values which was contrary to what was intended by the producers of this series. Again this series, like other materials, has not been tested to see what effects it has had on Indian students.
The underlying assumption of curriculum developers mentioned in this section plus other individuals has been that by studying his past the Indian student's self-esteem will be positively affected. This premise has rarely been tested to prove its validity. One study which tried to investigate this assumption with regards to the associated feelings of powerlessness was carried out with grade nine Oglala Sioux in South Dakota (One Feather, 1972). The course was based on Oglala Sioux legends, family groups, land system, economics, games and government. Knowledge in these content areas increased as a result of this course. However, when pretest and posttests dealing with a powerlessness scale were administered, the scores of the treatment group increased from 29.4 to 32.1 (a higher score indicated more feelings of powerlessness) while the scores decreased from 32.8 to 31.1 for the control group (One Feather, 1972:22). Thus, on this measurement scale a study of Indian culture had a negative effect on the students' feelings of powerlessness. The developers of this program postulated that the curriculum presentation caused an initial disconcerting effect, but were unable to ascertain why this happened (One Feather, 1972:13).

In another study, a positive change in attitude of grade four, five and six Indian and non-Indian students resulted from a study of the history and culture of the Indian people of their area in Maine (Pecorado, 1970:93). Films and slide tape presentations were developed in this Maine community in such areas as arts and crafts, employment and lives of successful Indians. Using open ended statements and semantic differential scales, the authors found improved attitudes towards Indian people and improved self-esteem scores at a statistically significant level.

On the topic of Indian content, Kleinfeld (1973:11) stated that
"education programs designed to build identity by focusing entirely on ethnic pride will not solve the problem [of identity]." She saw the Indian student facing a wide choice of alternatives; therefore, he must be aware of these choices which are at times contradictory.

The majority of the content in the curriculum referred to in this section was based on learning by reading plus discussion. In a study by Weisgerber (1972) a film, John Mercer Langsten, with a follow-up discussion was used with grade six white, Mexican-American, Black and Indian students. The characters in the film were mainly Blacks. Using semantic differential scales, this study measured the effect of the project on the student's self-esteem. They found that the Indian students had the lowest self-appraisals and concept of their ideal self. The treatment caused the Indian students to be more self-critical than other groups which led to lower self-esteem following the treatment. One of these conclusions was that curriculum, developed for one cultural group, may not be appropriate for other groups.

The material available in the area of curriculum and its relationship to the Indian student's self-esteem often emphasizes the development of a certain content with the expectation that this content will have a positive effect on the Indian student's self-esteem.

Various native history classes have been developed which tend to emphasize solely the past. In some cases this has meant only a substitution in content, but not approach. Recently, there has been a growing interest in bilingual and multicultural education for Indian students. A bilingual project in Manitoba started the students in Kindergarten primarily in their native language and shifted the emphasis until grade four where the native language was taught as a second language (Kirkness, 1976).
The T.E.S.L. approach was used in the English portion of the program. Evaluation of the program indicated that "attitudinal and self-concept scores were higher for the pilot schools" (Kirkness, 1976:20). Most of the success of the program was contributed to the involvement of native teachers and the community, plus the implementation of community based materials and resources. Utilizing the native language as the language of instruction increases the likelihood that the learning approaches favorable to the Indian student will be employed.

Less emphasis has generally been placed on analyzing and implementing the type(s) of learning approaches which would result in a positive change in the Indian student's self-esteem than on content. The learning approach involved in social simulation games may have some relevance in this area. However, to date, the author has been unable to find any study which investigated the effect of social simulation games on Indian students and, in particular, their feelings of self-esteem. Therefore, the present study does not have a parallel basis of comparison. As such, this social simulation must be considered a preliminary investigative study.

Simulated Economic Systems in the Classroom

Various economic simulation games have been developed for use in the classroom and articles have been written about their implementation. Since the available economic simulation games were primarily produced for the American audience, most simulations in this area are based on corporations or individual ownership. The concepts of a co-operative business have been given scant attention. In an annotated bibliography entitled Education Games and Simulations in Economics (Lewis et al, 1974), 130 games
were listed; however, not one of them dealt with co-operatives. Materials available through the Co-operative Association of Saskatchewan listed three simulation games for learning about co-operation but none dealing with the operation of a co-operative.

Some economic simulation games can be conducted in a few class periods and involve a high degree of abstraction. Many of the game board simulations are of this type, such as Red Tape and Monopoly. Other developers have tried to make their simulations more concrete. Rooze (1967), for example, developed a simulation in which the students undertook the assembly line production of cardboard models of cars in order to understand the techniques of standardization and division of labor as means of increasing production.

Pellern (Grigling, 1966) developed a unit in which grade three and four students operated an imaginary community called "Money Acres." Each player took the role of a community member such as the banker, policeman, storekeeper, etc. The economic activities did not produce any product other than the school newspaper which was marketable outside the simulated game.

Other projects have tried to operate mini communities in the classroom in an attempt to represent the real world outside the school in as concrete a way as possible. Bennett (1974:467) wrote that,

The purpose of Mini-Community [developed with the grade one class at Bel Pre Elementary class in Washington] is to provide pupils with many of the political, economic, and social encounters experienced in the community at large.

Students set up shops which sold products such as sock puppets and pin-cushions, as well as such services as entertainment at a theatre. The skills of mathematics, reading and writing were incorporated in the shop
activities such as through keeping a record of sales. This concept of the mini-community simulation is more encompassing and realistic than the boardgame simulations.

Richmond (1973) is also a proponent of the mini-community or micro-society approach. Working mainly with students from schools in New York, Richmond evolved a "Monopoly-like game until his total simulation became the curriculum for his classroom" (Heyman, 1976:18). Students built model houses and collected rent. Teachers had a certain amount of micro-money which they distributed in various ways. Some gave money for finishing a reader or other assignments while other teachers rewarded certain types of behavior. The money was the medium of exchange for various services among the students. Unlike other simulation games, the simulation money did have a use outside the game as the students purchased such items as basketballs, books and games at school auction sales.

A project at Webster Elementary School (Milbauer, 1966) in Utah employed a similar total simulation structure to Richmond's set up. The total elementary population, most of whom were from low income families, with a third of the students being of Mexican-American descent, was involved in the simulation. Separate wooden structures were erected for each of the businesses such as the bank, the post office, and the camera shop. They had their own monetary and law systems. Students were paid for their input into the businesses and for their classroom behavior and output. The school hoped that the project "would help the students develop positive attitudes both towards themselves and society, by providing them with diverse and rewarding experiences that would build confidence" (Milbauer, 1966:58). Most teachers involved in the project thought that the student's self-images had improved. This conclusion was
based on observing the students pay more attention in their regular classes, spend more time on their school work and show more initiative. Improved results on reading and mathematics tests were taken as indices of a more positive self-image as well.

Each of these projects had the enthusiasm and support of both the designers and participants in common. What this area of study lacks at this time is research to substantiate the stated benefits derived from participation in economic simulation games.

Summary

Projects developed to improve the Indian students' feeling of self-esteem were reviewed. These curriculum projects were primarily concerned with the content of the curriculum rather than the learning approaches themselves.

Examples of economic simulation games were described. Most of the material dealing with these projects has been anecdotal. This present study attempts to contribute to the area of empirical research in social simulation gaming.
Chapter 3

PROCEDURES OF THE STUDY

This study investigated the effects of the social simulation game Wechihtowin on the self-esteem, economic efficacy, co-operative behavior and feelings of powerlessness of junior high Indian students at Onion Lake, Saskatchewan.

Twenty-one grade eight students participated. Both the experimental and the grade seven control group answered three separate inventory tests (Appendix A) two weeks prior to the treatment. These same inventories were administered again to both groups as the posttests following completion of the social simulation game. The experimental group also answered the Questionnaire (Appendix B) which dealt with their opinions of the social simulation game.

The remainder of this chapter contains a description of the experimental design, the sample, the data collection procedure, instrumentation, and the statistical analysis procedures.

EXPERIMENTAL DESIGN

In testing the hypotheses a design was selected which would measure the difference in scores on the measuring instrument as a result of the treatment (the social simulation game). With this in mind, a pretest-posttest control group design was employed as diagrammed on the following page.
Figure 4
Pretest-Posttest Control Group Design

<table>
<thead>
<tr>
<th></th>
<th>CONTROL GROUP</th>
<th>EXPERIMENTAL GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRE-TEST</strong></td>
<td>Student Inventory A, C</td>
<td>Student Inventory A, C</td>
</tr>
<tr>
<td>(2 weeks prior</td>
<td>Powerlessness Scale</td>
<td>Powerlessness Scale</td>
</tr>
<tr>
<td>to treatment)</td>
<td>Economic Efficacy Scale</td>
<td>Economic Efficacy Scale</td>
</tr>
<tr>
<td></td>
<td>No treatment</td>
<td>Treatment - Social Simulation Game</td>
</tr>
<tr>
<td><strong>POSTTEST</strong></td>
<td>Same as Pretest</td>
<td>Same as Pretest</td>
</tr>
<tr>
<td>followed</td>
<td></td>
<td>Questionnaire D</td>
</tr>
</tbody>
</table>

By having the pretest two weeks before the treatment, the subjects would see less connection between the treatment and the tests. Administering pretests shows if there are any initial differences between the two groups where as employing posttests only would not. The tests themselves could have had an effect on the subjects. However, by comparing the change the experimental groups displayed to the change the control group indicated on the test, the effect of the test was taken into account. A placebo could have been employed with the control group to control for the novelty effect of the social simulation game in the experimental group, but the school structure did not permit this.

The Sample

Junior high school students at Chief Taylor School on the Onion Lake Reserve in Saskatchewan served as subjects for this study. Due to
the nature of the experiment and the school situation, the students could not be randomly selected and assigned. The school staff chose the experimental group, the grade eight class. As there was not a second grade eight class at this school, the grade seven class members acted as the control group.

The experimental group initially consisted of 23 students. During the study one student discontinued school and another transferred to a different school. In the control group 21 students completed the pretests but the posttest scores were not available for four of these students. For the final analysis the control group consisted of 17 subjects and the experimental group 20.

Table 2
Sex Distribution of Subjects in Control-Experimental Group

<table>
<thead>
<tr>
<th>SEX</th>
<th>CONTROL GROUP</th>
<th>EXPERIMENTAL GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

Although there was a difference of one year between the two groups in terms of grade placement, there was only a difference of .45 years in their average age. The average age for both groups was above their expected age for their respective grades as the average age was 14.04 years for the grade sevens and 14.49 for the grade eights at the time of the study.
Data Collection Procedures

The same classroom teacher administered the three pretest measuring instruments: Student Inventory A, Student Inventory B, and Student Inventory C (Appendix A) to both groups on November 2, 1976. All of the grade eight students were present on that date. Four of the grade seven students completed the inventories on the following day.

The students did not write their names on the inventory answer forms. Each student received a code number on his answer sheet which matched his name on the master list.

To minimize the effect of the pretests on their participation in the simulation, the first session was not held until November 15, 1976. The simulation utilized the grade eight social studies periods; a total time of about eleven hours. The final session was December 15, 1976. During the time that the experimental group participated in the simulation, the control group did not receive any treatment other than their regular classes.

On December 16 the subjects in both groups answered Student Inventory A, Student Inventory B and Student Inventory C. The subjects in the experimental group completed the questionnaire on the following day.

Instrumentation

This study employed three self-reporting written instruments. Instrument A (Appendix A) was an adaptation by Dreyer of an earlier version of Coopersmith's test in which Coopersmith found a reliability co-efficient of .88 in a five-week test-retest situation (Dreyer, 1970:8). Coopersmith assumed face validity. In this test students were required
to decide if each of twenty statements did, or did not, describe them. Their responses were recorded as zero if the statement response showed a low self-esteem and as a one if the statement indicated a high self-esteem. The possible range of individual total scores was therefore from 0 to 20 with the higher score indicating a higher positive self-esteem. By carrying out a split-half reliability analysis on the results of his adaptation of Coopersmith's test as administered to a group of Indian students in the United States, Dreyer (1970a:18) found a reliability coefficient of .533 for 12 to 14 year olds and .654 for the 15 to 17 year olds.

Instrument B (Appendix A) was a combination of two tests. Items 3, 6, 9, 12, 18, 21, and 24 were developed by the researcher to measure the student's level of economic efficacy. The subjects were required to decide whether they strongly agreed, slightly agreed, slightly disagreed, or strongly disagreed with each statement. The items were marked on a four place scale ranging from 0 to 3. A response which indicated a high feeling of economic efficacy was marked as 0. Thus the lower an individual's total score the higher his economic efficacy.

Included in Inventory B was one question which attempted to elicit the student's self-evaluation of his ability to work in a group: "I can work in a group" (Appendix A, Item No. 15). The remainder of the items in Inventory B were developed by Splilka (1970) to measure feelings of powerlessness. These items were scored in the same fashion as the above items. A high total score indicated a high feeling of powerlessness. Splilka (1970) had determined a scale reliability of .781 for Indian students and a reliability of .836 for non-Indian students (p. 110) his scale reliability for this experiment may have been affected by adding items to it.
Student Inventory C (Appendix A) was a semantic differential inventory which consisted of six concepts rated on seven adjective pairs. "Myself", "Indians", "My Future", "This School", "Indian Way of Life", and "White Peoples' Way of Life" were the concepts. The adjective pairs were "good-bad", "worthless-valuable", "weak-strong", "happy-unhappy", "lazy-active", "smart-dumb", and "friendly-unfriendly." Each was rated by choosing one category along the continuum of each adjective pair as below:

<table>
<thead>
<tr>
<th>GOOD</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>BAD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very</td>
<td>Fairly</td>
<td>Some-</td>
<td>Some-</td>
<td>Fairly</td>
<td>Very</td>
<td></td>
</tr>
<tr>
<td></td>
<td>good</td>
<td>good</td>
<td>what</td>
<td>what</td>
<td>Bad</td>
<td>Bad</td>
<td></td>
</tr>
<tr>
<td></td>
<td>good</td>
<td>bad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A student questionnaire (Appendix B) was developed by the researcher to determine what the students had learned and to determine the students' views of the social simulation game.

In addition to these written tests, the students' day-to-day involvement in the co-operative was observed and the records of their respective co-ops were utilized to study the effect of Wechihtowin.

Analysis of Data

A statistical procedure was chosen which would test the differences in mean scores of the experimental and control groups on the self-esteem, economic efficacy, powerlessness and co-operative scales. The analysis of covariance was chosen because it could be employed with interval data to fulfill the above function. In addition, an analysis of covariance (ANCOV) produces means for groups of unequal size. By employing ANCOV, samples with different pretest scores can be equalized.
In this study the pretest score for each variable such as self-esteem was the covariate and the posttest score was the dependent variable. Group membership, i.e. the experimental or control group, was the independent variable. Adjusted means were calculated. In addition, the amount of the difference in the adjusted means between the experimental and control groups was calculated and the group which indicated more positive change on the variable was identified. A level of significance of .05 was chosen to indicate support of the hypothesis.

The responses to the questionnaire were dealt with at a descriptive level.

The presentation and analysis of the data in this study are provided in Chapter 5.

**Summary**

This chapter outlined the pretest-posttest control group experimental design employed in this research and discussed the sample, data collection procedures, instrumentation, and methods of analysis.
Chapter 4

THE SOCIAL SIMULATION GAME

The format for describing Wechihtowin is that designed by Apt (1970).

RATIONALE

Classroom learning situations often have not provided experiences which enhance the Indian student's self-esteem. Little attention has been paid to the learning approach that Indian students utilize. Emphasis in previous development of curriculum for Indian students has been on content not on the learning approach. It was the contention of this project that a social simulation game could provide positive experiences for Indian students by allowing them to make choices including the choice of a suitable learning approach. By so doing, the students would experience 'success' which would decrease their feelings of powerlessness and increase their feelings of self-esteem, economic efficacy and cooperation.

In addition it was felt that the present school system stresses competition to the detriment of cooperative behavior. Co-operation is a learned behavior and requires situations in which it can be explored and practiced. Social simulation games can be developed to meet this need.

In terms of the content of this social simulation game, a co-operative business was chosen because of its relevance for Indian people. The present economic situation of Indian people is one characterized by a high unemployment rate and a low annual income. Co-operatives have
been established to solve this economic situation in Indian communities, but their degree of success has varied. If individuals as young adults had a knowledge of how co-operatives operated, they would better be able to operate co-operatives successfully as adults.

Wechihtowin was tested with junior high students, but it could easily be adapted for use with younger students as well as adults.

OBJECTIVES

Following is a list of objectives that Wechihtowin was designed to meet.

1. To provide situations for the participants to realize the importance of co-operation and practice it.

2. To provide participants with the opportunity to experience the roles of a producer and retailer in the business world.

3. To provide participants with a tangible form of reward, i.e. money, for their actions.

4. To assist participants to realize the problems faced by people in business such as maintaining records, and increasing production, and to provide opportunities to deal with these same problems.

5. To provide participants with an opportunity to meet and deal directly with the Indian and non-Indian public in the retail aspect of the simulation.

6. To provide participants with situations which required them to arrive at group decisions.

7. To have participants understand and utilize the concepts of expenses, income, wages, profit and their interrelationships in their business.
8. To provide participants with an opportunity to practice maintaining records, making bar graphs and writing cheques.

9. To provide participants with opportunities to practice their problem-solving skills and to see the consequences of so doing.

10. To positively increase the student's self-esteem and economic efficacy, and to decrease the student's feelings of powerlessness.

PLAYER ROLES

Each player interacts at various levels: with other individual co-operative members, with the class as a group and with members of the general public.

The initial role of the participant was to take part in the square completion game (Appendix C). In this game each of the five members of a given group was handed some pieces of part of a square. The members were not allowed to speak or motion to one another that they wanted a particular piece of paper. Each member's goal was to complete a square equal in size to the other group members'. In order to complete his squares, each group member had to co-operate and share.

As an introduction to the idea of a co-operative and to indicate that it was possible for them to operate their own co-operative, the article "Nouhla Co-op" was read and discussed (Appendix C).

Following this each player chose which co-operative group he would join. Each person was a member of a particular co-operative whose membership was limited to six and in turn each co-operative was a member of the federated co-operative, i.e. the whole class. Each group decided by a majority vote on the name for their respective co-op and the whole class selected a name for the federated co-op.
One person was elected by each co-operative as a director on the federated co-op board. The directors were involved in such matters as pricing and setting up schedules for the selling of the products. They were instructed on certain aspects of operating a business such as writing receipts and cheques. The directors are responsible for instructing their own respective group members in these matters.

Each person was involved in the role of a producer. Given the materials, each participant determined his rate of production. The participants maintained "Daily Employee Record" sheets on which their dates of employment, hours and daily production were recorded (Appendix C). This information was used by each participant to construct a bar graph to show his own daily production (Appendix C).

In addition to these roles, each group planned a job schedule which rotated the following assignments among its members:

1. Group production graph
2. Daily attendance graph
3. Weekly production graph
4. Current account -- Income, expenses and cheques
5. Store sales (Appendix C).

The responsibilities of each of the above positions were explained to the assigned players in a group. When the jobs were next rotated, the position was explained to the new player by the person who has just finished that job.

When the production aspect was completed, each person acted as a salesman on at least one occasion when the product was sold to the public. At this time each purchased item was recorded as to its retail price and its producer.
All participants assisted in the completion of their groups "Final Report" and decided as a group how the dividends were to be divided (Appendix C).

This variety of forms was introduced so that the operation of the business would be summarized and visualized by the participants. In addition, these forms provided experiences which were relevant to the operation of a business in the real world.

PLAYER GOALS

The participant's main goal was to co-operate by being a productive member of his co-operative. By so doing, he would increase the co-operative's production and sales which meant that the co-operative's dividends and, in turn, the participant's dividends would be higher.

PLAYER RESOURCES

Each co-operative applied for and received an initial loan of $20.00 from the class bank which was repayable at 20 percent/annum (Appendix C). Part of this loan was put in the co-operative's bank account and the remainder was received in play money. Three players from each group had signing authority. Two of these players had to sign each cheque.

The necessary supplies for the production of the product were purchased with the play money from the class store. Co-operative members decided within their group what to purchase. The materials were used collectively.

When a further loan was required to cover additional expenses such as wages, the co-operative applied for an additional loan.

Every participant was paid an hourly wage of one dollar. This
amount was paid by cheque every two weeks. Members could have decided to lower the amount paid to a participant if his production was not sufficient.

This means each player had the following resources: materials paid for by his co-operative, his hourly wages and his individual skills.

EXTERNAL FACTORS

External reality was built into Wechihtowin in several ways. The processes necessary to complete the various forms were based on accepted business practices. A monetary system was introduced with the accompanying banking procedures.

Since the products of the co-operatives were marketed in the world outside the classroom, the external factors of the real business world were built into the simulation game. The consumer determined the amount of the sales and the dividends that each co-operative was able to issue.

The Social Simulation Game as Compared to Real Co-operatives

As in the formation of many native co-operatives in real life, the impetus came from an outside source in the simulated situation. The individual members did not contribute financially to the establishment of the co-operative. This is different from a real co-operative as each member has to buy a member's share in order to join a real co-operative. A loan from the simulation bank provided the initial funding for each co-operative. Real co-operatives, as well, borrow money from lending institutions.

Unlike real co-operatives, the simulated co-operatives did not
become legalized entities nor did they establish by-laws. The introduction of these elements would have made the simulation too complicated for the participants.

The decision making process in the simulated co-operative was a democratic one as in real co-operatives. Each member had one vote. The members decided such things as what type of product to make, and how to regulate members' production. At the same time the world of business and the consumer set certain parameters such as the necessity for keeping records and the setting of the selling price.

The organizational structure of the co-operatives in the simulation game was based on the idea of a federated co-operative.

Figure 5
Organizational Structure of a Federated Co-operative
The co-operative members elected their respective directors who became members of the board of directors of the federated co-operative. In a real federated co-operative, district representatives are chosen by the co-operatives to attend a federated co-operative meeting at which time the board of directors are elected. For simplicity, this simulation had the elected co-operative directors become the members of the Board of Directors. The respective co-operative directors may or may not be a member of a real federated co-operative Board of Directors. This Board made decisions on matters of common concern to all member co-operatives. For example, they determined the price of the products and made arrangements for the marketing of the products. Thus, there was a structure which permitted and encouraged co-operation between co-operatives as in real life federated co-operatives.

Wachihtowin is an example of a producer co-operative as the group members made a product, e.g. jewelry. It was also a marketing co-operative as the federated co-operative was responsible for selling the products to the public in the final stages of the simulation.

When the simulation game ended, each co-operative tabulated its expenses and income derived from the sale of its products in order to calculate a dividend for its members. In an actual producer co-op, the dividend is divided proportionately among members according to the amount each member sold. However, in this simulation, the co-op members decided how the dividend was to be divided. Some co-operatives decided in the traditional manner. Others decided to divide the dividends equally among the members irrespective of the amount each person produced or sold. In this respect, the simulation was not like an actual co-operative but was arranged in this manner to test a research hypothesis.
In actual co-operatives, part of the surplus must by law be retained to meet anticipated expenditures. Part of the funds are reinvested in the co-operative for future growth and development. Since the simulation existed only for a prescribed length of time, the total dividend was distributed among the members.

Throughout the process, the teacher played the role of the general manager. Assistance was given in the technical aspects of the production process and in the maintaining of the necessary records. As the simulation proceeded, the students relied on the teacher to a lesser degree.

Co-operatives encourage a growth in knowledge of co-operative principles. The simulation process itself, in Wechihtowin, was an education in co-operative principles. In addition, booklets were provided and displays set up to encourage further learning experiences dealing with other co-operatives (Appendix D).

The simulation game Wechihtowin is modelled on co-operatives. Like other simulations it represents the key concepts, but it simplifies certain processes in order to operationalize the model at an appropriate level for the participants.

**Co-operative Product**

The type of product that the co-operative decides to produce and market is dependent upon the available facilities, the students' and teacher's skills and experiences, the cost of the raw materials, the amount of labor involved per unit, and the market conditions. The basic framework of the simulation is not dependent upon the type of product selected. Due to time constraints, the author chose the type of product
to be produced in this experiment. However, in the normal classroom situation it would be advantageous for the students to go through the process of selecting the product.

As the author had experience in the production of jewelry in an earlier co-operative, this product was selected. The simplicity of the production process permitted each person to make several items per hour. In addition, the low cost of the raw materials led to a low unit cost. Students selected which of the following media they wished to work in: clay, bone, wire and/or feather. Chokers and pendants were made from these materials.

Jewelry of the above types was in vogue especially with younger people. A favorable competitive price of between $1.00 and $2.00 was arrived at. This selling price resulted in a profit and allowed the co-operatives to declare a dividend.

**WIN CRITERIA**

*Wechihtowin* is a type of non-zero sum game. That is, all or some of the groups can win or lose. The group who sold the most did not necessarily do so at the cost of the losers if there were any. One measure of success was how much each group had to declare as a dividend at the completion of the business.

The amount of products produced per man hour affected how much each group had to offer for sale. In turn the quality of the jewelry as perceived by the public affected the purchase price of the jewelry. Thus the group's efforts affected the amount produced and the unit cost. The general public determined what was purchased and consequently the group's dividends.
A successful co-operative is able to declare a dividend. Since the individual co-ops determined the method of dividing the dividends, several alternatives were possible. If each member received an equal share of the dividends irrespective of his individual sales, individual effort was not rewarded proportionately. If the dividends were divided according to the amount an individual produced or sold, then individual merit was rewarded proportionately.

On completion of the simulation, each participant received his full wages in cash if the co-operative was, first of all, able to cover all its costs incurred. In addition, the participant received his agreed upon share of his co-operative's dividends in cash.

PRESENTATION

Wechihtowin is a non-board game format. It was based on players producing a product as individuals but co-operating as a group in making decisions. The players were not assigned role descriptions whereby they were to react in a prescribed manner. They were free to act as they defined their role while they carried out the business transactions involved and produced their product.

Materials such as clay, cords, and beads were necessary for the production of the product in these co-operatives. The materials would differ depending on the type of product that the co-operatives decided to produce.

Play money was used in the transactions of the store while cheques from a regular bank were used for other financial transactions.

The students operated in separate areas of the classroom in their respective co-operatives and joined together for meetings of the federated
co-operative. The number of members in each of the co-operatives was optional.

This account provides a brief overview of the social simulation game Wechihtowin. More detailed information can be found by reading the forms in appendix C.
Chapter 5

PRESENTATION AND DISCUSSION OF RESULTS

INTRODUCTION

This chapter contains a description of the data analysis performed following the simulation game. Findings are reported and discussed.

First the testing situation is explained as it may have had some bearing on the test results. All the tests, with the exception of the Questionnaire, were administered by the regular classroom teacher. This may have led to some subject bias as the way that they responded to the items may have been affected by their desired relationship with the teacher (Triandis, 1971). Direct assessment of attitudes as in the "Myself Scale" is compounded by the fact that some respondents may try to give what they think are socially acceptable answers not what they really feel.

It was the intention of the researcher to have the posttests administered after the wages and dividends had been dispersed. Due to the time it took for the groups to complete their "Final Report" form and due to class scheduling, the posttests were administered before the funds could be dispersed. The participants had expected to get their money earlier during the testing day, but they did not get their money until the next day. This created a disturbing effect which may have affected the test results negatively.

There were several differences between the control and experimental groups. There were differences in
class personalities. Discussions with the school staff pointed out that the experimental group had a more negative attitude to school and less enthusiasm about most activities. Their attendance was more erratic than the control group. As well, teachers were less trusting of the experimental group. These initial differences may have made the changes that the experimental group underwent more significant than the statistics indicated.

Another problem in interpreting the results was the small sample size. One example will serve to illustrate this point. The data from the self-esteem test is chosen as an example.

Table 3
Pretest and Posttest Means of the Experimental and Control Groups on Self-esteem Inventory

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest Mean</th>
<th>Posttest Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental (n=20)</td>
<td>9.2</td>
<td>9.4</td>
</tr>
<tr>
<td>Control (n=17)</td>
<td>10.65</td>
<td>11.29</td>
</tr>
</tbody>
</table>

If the one subject from the experimental group who showed the greatest degree of change in self-esteem inventory was dropped from the sample, the average mean pretest score for the experimental group would have been 8.7 with the posttest mean of 9.5. Proceeding similarly with the control group, the pretest mean would have been 11.0 and the posttest mean 11.0. By eliminating the one subject from each group who changed the most, it can be seen that the control group mean then did not change
whereas the experimental group indicated a greater change. Thus, the test statistics can be noticeably influenced by only one person in the sample because of the small sample size.

PRESENTATION AND DISCUSSION OF RESULTS PERTAINING TO HYPOTHESES

Recognizing these difficulties, the individual hypothesis will now be investigated. For each of the hypotheses, the level of significance is .05. This means that if the level of significance is reported as greater than .05, for example, .18, then the hypothesis can not be supported statistically.

Only one hypothesis, hypothesis four, was statistically significant at the .05 level or less.

Table 4

Analysis of Covariance on My Future Scores Between Experimental and Control Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Mean</th>
<th>Difference</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>14.98</td>
<td>3.56</td>
<td>.045</td>
</tr>
<tr>
<td>(n=20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>18.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=17)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As the level of significance was less than .05, hypothesis four, which stated that the participants in the social simulation game would show a significant positive change in their view of their future, was supported. By seeing that their actions can have an effect in a tangible way, the
participants may now feel more confident about their ability to perform positively in the future. This more positive view of their future also indicates that they have a greater sense of control in their future activities. Thus, the positive feedback that they received in the social simulation game has helped them to anticipate a brighter future.

Looking at the data for hypothesis number one which stated that the students would show a significantly positive change in self-esteem as a result of playing the simulation Wechihtowin, it can be seen that The Inventory A - Self-Esteem test did not produce a statistically significant difference.

Table 5

Analysis of Covariance on Self-Esteem Inventory Between the Experimental and Control Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Mean</th>
<th>Difference Between Means</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>9.54</td>
<td>1.66</td>
<td>.107</td>
</tr>
<tr>
<td>(n=20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>11.20</td>
<td></td>
<td>.107</td>
</tr>
<tr>
<td>(n=17)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The test results did indicate that the control group changed more (1.66) in a positive direction than the experimental group. Part of this change may be due to the influence of the small sample size illustrated earlier. The control group also viewed themselves more positively on the pretests which may have made them more cognizant of the intent of the self-esteem tests. The means for both the experimental and control groups were lower than the mean of 12.5 found by Dryer (1970) when he administered
this same test to various Indian groups of students in the United States. Dreyer's sample included students ages 12 to 17. However, the average age of the groups in this study (experimental group 14.49 and control group 14.04) was lower than Dreyer's sample. The older students in Dreyer's sample may have caused the average score on the self-esteem scores to be higher than in this experiment.

The results of the Myself Scores were also viewed as proving or disproving hypothesis four concerning change in positive self-esteem.

Table 6

Analysis of Covariance on Myself Scores Between the Experimental and Control Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Means</th>
<th>Difference Between Means</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>19.22</td>
<td>1.22</td>
<td>.267</td>
</tr>
<tr>
<td>Control</td>
<td>20.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although the data does not show a statistically significant change in the "Myself" scores, the experimental group did change more in a positive direction. (The lower mean score indicates a more positive Myself score.)

Thus, neither the results of the Self-esteem or Myself tests produced statistically significant differences, but the differences that they did produce were in different directions. That is, the Self-esteem test indicated a more positive change for the control group whereas the Myself test indicated a more positive change for the experimental group. Although both instruments were developed to measure the same concept, i.e. self-esteem, these tools did not appear to measure the same aspects of the
of the concept. These findings agree with the results of a study by Dreyer and Havighurst (1970) in which these same tests were employed with groups of Indian students in the United States.

The Self-esteem Inventory dealt more with relationships with other people, e.g. "No one pays much attention to me at home" (Appendix A). The Myself instrument dealt more directly with what the subject thought of himself or herself, but in abstract terms such as 'good' and 'bad.' In either test there was a problem of determining the comparative standard that the subjects were using when they answered the inventories. Other sections of Inventory C, of which the Myself section was a part, shed some light on this question.

Table 7
Experimental Groups's Adjusted Means on Inventory C Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myself</td>
<td>19.22</td>
</tr>
<tr>
<td>White People's Way of Life</td>
<td>20.09</td>
</tr>
<tr>
<td>Indian Way of Life</td>
<td>15.04</td>
</tr>
<tr>
<td>Indians</td>
<td>16.84</td>
</tr>
</tbody>
</table>

(A lower score indicates a more positive view)

Comparing adjusted means, it can be seen that the Myself mean (19.22) was similar to the mean on the White People's Way of Life section (20.09). Both of these factors were weighed more negatively than the Indian Way of Life (15.04) and Indians (16.84) by the experimental group. It appeared
that the subjects rated white people and themselves similarly which in
turn meant that they viewed themselves more negatively than they did
other Indian people. Thus they indicated a more negative self-image but
not a negative group image.

In addition, the experimental group developed more positive
change in attitudes to Indians (pretest mean 19.3, posttest mean 16.85)
and the Indian Way of Life (pretest mean 19.15, posttest mean 15.40) as
a result of the simulation while their view of White People's Way of Life
remained relatively the same (pretest mean 20.55, posttest mean 20.12).
So there was a positive improvement in their attitudes towards Indians and
the Indian Way of Life with a lesser but positive change in their own
self-esteem.

Table 8
Comparison of Pretest and Posttest Means on Inventory C Items
for the Experimental Group

<table>
<thead>
<tr>
<th>Item</th>
<th>Pretest Mean</th>
<th>Posttest Mean</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indians</td>
<td>19.3</td>
<td>16.85</td>
<td>2.45</td>
</tr>
<tr>
<td>Indian Way of Life</td>
<td>19.15</td>
<td>15.40</td>
<td>3.75</td>
</tr>
<tr>
<td>White People's Way of Life</td>
<td>20.55</td>
<td>20.12</td>
<td>.43</td>
</tr>
</tbody>
</table>

Hypothesis two which stated that the students would show a signifi-
cant positive change in economic efficacy was not supported by the data
as indicated in Table 9. The lack of a reliability study of the economic
efficacy items makes generalization of the findings difficult.
Table 9

Analysis of Covariance on Economic Efficacy Between the Experimental and Control Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Mean</th>
<th>Difference Between Means</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>8.77</td>
<td>.26</td>
<td>.999</td>
</tr>
<tr>
<td>(n=20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>9.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=17)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings indicated a slightly more positive change in economic efficacy for the experimental group. As well, both the experimental and control group's posttest scores were more positive than their pretest scores.

Table 10

Pretest-Posttest Means on Economic Efficacy for Experimental and Control Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest Mean</th>
<th>Posttest Mean</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>11.62</td>
<td>10.22</td>
<td>1.40</td>
</tr>
<tr>
<td>Control</td>
<td>11.41</td>
<td>10.43</td>
<td>.98</td>
</tr>
</tbody>
</table>

It is possible that the financial success of the co-operatives, which was known throughout the school, may have influenced the control group's feelings of economic efficacy as well.

Table 11 will be referred to in the following discussion of specific items on the economic efficacy test. In this test the lower score
is taken to indicate a higher economic efficacy.

Table 11

Pretest-Posttest Means on Economic Efficacy Items for Experimental and Control Groups

<table>
<thead>
<tr>
<th>Item</th>
<th>Group</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Experimental</td>
<td>1.90</td>
<td>1.29</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>1.08</td>
<td>1.50</td>
</tr>
<tr>
<td>6</td>
<td>Experimental</td>
<td>1.47</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>2.38</td>
<td>1.80</td>
</tr>
<tr>
<td>9</td>
<td>Experimental</td>
<td>1.61</td>
<td>1.44</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>2.42</td>
<td>2.50</td>
</tr>
<tr>
<td>12</td>
<td>Experimental</td>
<td>2.32</td>
<td>1.47</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>1.56</td>
<td>1.71</td>
</tr>
<tr>
<td>18</td>
<td>Experimental</td>
<td>1.53</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>1.35</td>
<td>1.15</td>
</tr>
<tr>
<td>21</td>
<td>Experimental</td>
<td>1.50</td>
<td>1.78</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>1.40</td>
<td>1.53</td>
</tr>
<tr>
<td>24</td>
<td>Experimental</td>
<td>1.11</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>1.09</td>
<td>0.60</td>
</tr>
</tbody>
</table>

In response to statement number 3: "I feel I could work in a business to make it succeed." the experimental group displayed a positive change (pretest M=1.9, posttest M=1.29) whereas the control group indicated a negative change (pretest M=1.08, posttest M=1.50). Thus the experimental group indicated a more positive attitude towards their ability to work successfully in a business.

The experimental group's more negative posttest score (pretest M=1.47, posttest M=2.00) in response to the item: "I can't understand what goes on in a business" (item 6) may have been based on a more
realistic appraisal of their economic knowledge compared to that of the control group. The control group saw the success of the co-operatives, but did not have any direct experience dealing with the various economic problems that arose. This means that the experimental group's response to this question may indicate their wider knowledge of the business world compared to the control group.

Items 9, 18 and 21 did not differentiate between the two groups to any degree. Item number 12: "Running a business is too difficult." indicated a much greater degree of positive change in economic efficacy for the experimental group (pretest M=2.32; posttest M=1.47). On the other hand, the control group indicated a negative change (pretest M=1.56, posttest M=1.71). Although running a business was not entirely smooth, the experimental group members felt that it was within their capabilities to do so.

In response to the statement, "Indian people can run successful businesses" (Item 24), both posttest scores were very positive but the control group displayed a more positive change (experimental pretest M=1.11, posttest M=1.00; control pretest M=1.09, posttest M=.60). Because of their experience in the operation of a co-operative, the experimental group members may have been making a judgment tempered with more realistic optimism. The scores on these items were the most positive ones for both groups which indicates a positive view of their own group, i.e. Indian people.

It can be said in conclusion that although the difference in adjusted total score means did not indicate that there was a greater statistically significant degree of positive change in economic efficacy, several of the items indicated a more positive growth in economic efficacy for
the experimental group. A more detailed item analysis with further comparative studies would have to be conducted.

It was hypothesized that the participation in the simulation Wechihtowin would result in a significant decrease in feelings of powerlessness.

Table 12
Analysis of Covariance on the Powerlessness Score Between the Experimental and Control Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Mean</th>
<th>Difference</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>32.96</td>
<td>.48</td>
<td>.999</td>
</tr>
<tr>
<td>Control</td>
<td>32.48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since the level of significance was greater than .05, this hypothesis could not be accepted statistically. There was a minimal difference between the experimental and control group means. The tests do not indicate any effect on the subject's feelings of powerlessness due to the treatment Wechihtowin. It may be possible that the test is unable to measure the feelings of powerlessness of Indian students effectively, or the feeling of powerlessness is too pervasive a feeling to change in such a short term exposure to this particular teaching approach. Other instruments would have to be used to test these ideas.

Although the improvement in perceived ability to co-operate in groups was not statistically significant, the experimental group did improve in this area to a greater degree than the control group.
Table 13
Comparison of Pretest and Posttest Means on Co-operation for the Experimental and Control Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental (n=17)</td>
<td>1.47</td>
<td>1.06</td>
<td>.41</td>
</tr>
<tr>
<td>Control (n=15)</td>
<td>1.13</td>
<td>1.06</td>
<td>.07</td>
</tr>
</tbody>
</table>

Student responses on the questionnaire revealed that they became cognizant of the importance of co-operation and felt that they were able to co-operate in groups. Observation of their behavior confirmed this for all but a few of the participants. It would have been better to have more than one question dealing with co-operation on the testing instrument.

Hypothesis six, which stated that more of the co-operatives would decide to divide their dividends equally among their members rather than on some other basis, was supported. Three of the groups divided the dividends evenly while the fourth group based each person's share of the dividends proportionately on the amount that they sold.

The decision as to how to divide each co-operative's respective dividends presented difficulty for some groups. This was particularly evident in one group where one individual had sold more than the other members and was opposed to dividing the dividends evenly among the members. In the group which divided the dividends roughly proportionately to the amount each member sold, the production of one member was very low compared to the other members. This member avoided being involved in this
decision which left only two people to decide as one other of their co-operative members was not present on that particular day. In the other two groups the decision to divide the dividends evenly was reached quickly and to everyone's apparent satisfaction. The effect of this decision on the operation of the co-operatives may have been different if it had been reached by each group near the beginning of the simulation. Since the majority of the members decided to divide the dividends evenly, some conflict could arise in an actual producer co-operative where the dividends are divided proportional to the amount sold.

OTHER QUESTIONS CONSIDERED IN THE STUDY

The following section discusses the questions posed in the introduction of this thesis (p. 5). These questions dealt with the credibility of the game, the participants' co-operative attitude, the recognition of the importance of recording business transactions, the attempts to deal with certain issues, the amount of dividends and the participants' perception of enjoyment in this social simulation game. The student responses to the questionnaire (Appendix B) contribute to this discussion.

Several points arose in answering question one: "What aspects of the simulation game will prove too cumbersome or lack credibility for the students?" One of these areas was the play money. This lacked relevance for many of the students as they could get play money for their cheques, but they could not purchase any goods or services either in the sphere of the game or in reality. Attempts were made to see if the play money could be used as currency for school activities, but no activities which necessitated money occurred during the duration of the simulation game. Thus, the importance of the currency did not evolve until the completion of the
game when each player was given the amount of money equivalent to the play money he had.

One occasion did illustrate to the group the value of the play money. This was the use of the play money to purchase materials needed to produce the jewelry from the co-op store. At the same time, the store proved cumbersome. Since it was only opened a few times, the students did not gain enough experience in order to collect the money and record the sales quickly and efficiently. In response to the question: "What did you enjoy the least about working in the co-operative?" (Appendix B, #5), three students commented negatively about their involvement in the store. Four students also indicated that they did not understand the procedure of paying for the beads from the store, which indicated that there were problems with the operation of the store.

No attempt was made in the simulation to show the details of the operation of the store such as the cost of the materials in relationship to the selling price and the amount of labor required to run it. The operation of the store could have become more of an integral part of the simulation.

Another aspect which proved cumbersome was the job rotation system. It was planned so that each participant would undertake each position once during the simulation. This did not materialize. The amount of time required to explain the job to the respective group members and the time required for the participants to learn the task prevented this from taking place. In terms of efficiency, it would have been better to have one person fulfill each position throughout the simulation. At the same time this might have reduced the range of experiences of the participants. Some participants who had time consuming jobs had the additional
difficulty of losing production time. Where the job assignments were not equally distributed, the hourly wage remained the same, but the individual's share of the dividends was less if the dividend was based on the amount produced.

In terms of other problems that the participants saw (Appendix B, #13), one student indicated problems in how to write out cheques while one other student mentioned experiencing difficulty in organizing his papers in addition to the four participants who mentioned difficulties with the store. Other participants did not list any problems. This question did not reveal an accurate picture as during the sessions students were observed experiencing difficulties drawing their bar graphs, balancing the group's bank account and calculating the amount to declare as a dividend. Additional explanation by the researcher was necessary to resolve these problems.

There was also some confusion in terms of working out the relationships among costs, selling price, and profit as half of the participants were unable to calculate the question on profit in the questionnaire (Appendix B, #15). Part of the difficulty was that they had only calculated one other question of this type as a group when they were filling out the "Final Report" for the completion of the simulation. More examples of this type were needed so that the students could have practiced applying these concepts. At the same time, the low number of problems indicated does show that the participants did not see these issues as overpowering.

Question two in the introduction asked: "Are the participants able to display a co-operative attitude in the operation of the game?"

From the participant's point of view only one person felt that his group
was unable to co-operate (Appendix B, #6). As indicated earlier in response to the Inventory B, item No. 15 dealing with the participant's perceived ability to co-operate, the experimental group improved to a greater degree than the control group. Thus, the participants themselves felt comfortable about their ability to co-operate. Co-operative behavior was generally practiced although it varied from group to group. One of the highest producing co-operatives had one of the lowest producers as one of its members. This person, however, became very co-operative in the retail aspect of the simulation. Another member did not co-operate effectively in his group, but dropped out of school before the project was complete. Since the participants chose which co-operative to join, they were generally amenable. For a few participants this close friendship increased the amount of conversation and decreased the production.

The decision as to how to divide the dividends caused some conflict in one co-operative as the member who had a high amount of sales did not want to see the dividends split equally. This situation could have partly been avoided by having each co-operative make a decision on the dividends at the beginning of the simulation.

In summary, it can be said that the participants recognized the need for co-operative action, improved their self-perceived ability to co-operate and in turn improved their actual co-operative behavior as observed in the simulation.

Several items on the questionnaire were relevant to the question: "Will the participants recognize the importance of recording various business transactions such as the issuing of cheques, recording of income and expenditures and the payment of wages?" Two questions (Appendix B,
#'s 14 and 16) required the participants to apply what they had learned in the simulation to the world of business. Participants recognized the following issues: maintenance of records, obtaining capital, deciding on a selling price, shyness and co-operation. In terms of what they felt was necessary for a successful business, they stressed the ideas of co-operation and hard work with references to maintaining proper records, organization and the ability to sell receiving less emphasis. Thus, the participants recognized the necessity of maintaining records but they placed more emphasis, by comparison, on the social interaction aspect of the co-operative.

In terms of recognizing and attempting "to solve such problems as poor attendance, obtaining financial capital, low production and others in the operation of their own businesses" the response differed. Two groups attempted to have the researcher solve a few of these problems for them. For example, one group was disturbed by the low input of one of their members while some members in another group were dissatisfied with their director's performance. The researcher shifted the responsibility for solving these issues to the groups.

This issue of a few low producers was never really solved. When the suggestion of setting a minimum hourly production was brought up, none of the groups decided to set a minimum. In a previous experience with such a co-operative set-up (Appendix C), a minimum was established by the group and enforced by the group. This procedure worked effectively. As the last week of production approached, two low producers increased their production drastically as they saw they would otherwise have few items to sell. As all groups paid their members an hourly wage irrespective of how much they produced and since three of the
co-operatives split their dividends evenly, wages and a share of dividends did not serve as incentives to increase production.

With respect to attendance, the participants didn't appear to see the significance of attendance for their co-operative until the simulation was nearly completed. Thus they did not attempt to come to grips with the low attendance of a couple of the members. The attendance graph was useful but the participants did not look at this or other forms in sufficient detail. Time should be set aside to study these forms as a group. Part of this problem was due to the researcher's emphasis on production time. On the whole, however, the attendance was good.

The initial bank form (Appendix C) showed the participants the need for obtaining financial capital. However, since there was no financial input on their part in the form of co-operative shares or otherwise, the loan may have come too easily to recognize its importance.

The final report which indicates each group's statement of dividends responds to the question: "Are the participants able to operate a business at a profit?" Each co-operative was able to meet all of its expenses including the hourly wages and declare a dividend after its products had been sold. The dividends varied from group to group from a high of $13.81 per co-operative member to a low of $4.42 per co-operative member.

If the total wage income ($140.00) was added to the dividend income ($157.27), this could result in an average hourly wage of 296.87/140 = $2.12/hour (Appendix E). Their ability to operate a business at a profit becomes more obvious when it is pointed out that over 30 percent of the businesses started by the organization "Junior Achievers" which is made up of high school students, do not break even. So, in terms of
Table 14

Summary of Data on Operation of the Co-operatives

<table>
<thead>
<tr>
<th>Co-operative</th>
<th>Hours</th>
<th>Production</th>
<th>Amount/hr</th>
<th>Sales</th>
<th>Expenses</th>
<th>Dividends</th>
<th>Dividends/member</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(6 members)</td>
<td>23</td>
<td>17</td>
<td>82</td>
<td>46</td>
<td></td>
<td>96.75</td>
<td>50.70</td>
</tr>
<tr>
<td>Handimakers</td>
<td></td>
<td></td>
<td>3.57</td>
<td>2.71</td>
<td></td>
<td>46.05</td>
<td></td>
</tr>
<tr>
<td>(6 members)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seekuskootch</td>
<td>41.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5 members)</td>
<td>21</td>
<td>13.5</td>
<td>113</td>
<td>2.72</td>
<td></td>
<td>76.50</td>
<td>28.87</td>
</tr>
<tr>
<td>Valuemakers</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4 members)</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>68</td>
<td>72</td>
<td>209</td>
<td>211</td>
<td>3.07</td>
<td>2.93</td>
<td>319.25</td>
</tr>
</tbody>
</table>
operating a business, the participants were very successful.

The students indicated a positive response to the question: "Will the participants feel comfortable and enjoy being involved in the simulation game Wechihtowin?" All students indicated that they enjoyed the social simulation game either very much or quite a bit. As well, all respondents stated that they would like to continue working in the co-operative. In terms of what they found the most enjoyable, a variety of points were mentioned (Appendix B). Most frequently listed were the actual production of the jewelry, the selling of the jewelry and the experience of working with others.

In terms of what they would change in the simulation, ten of the seventeen respondents indicated that they would not make any changes. Several of the students suggested changes in the particular members in their respective co-operative while two students felt that the groups should be limited to four or five.

Individual conversations with the students and with their teacher substantiated the students' enthusiasm for the social simulation game Wechihtowin.

Relevance of Social Simulation Games for Indian Students

In the remainder of this section the relevance of social simulation games for Indian students is discussed. In the traditional Indian learning style, role playing was a process through which Indian children learned to practice the adult roles that they would play in later years. Young Indian males would use small bows and arrows to play the part of hunters (Pasavento, 1974). Petit states:

Primitive play where it reflected adult pursuits, was to a large extent directed practice rather than mere imitation and
that such practice was encouraged—positively by praise, ceremonial recognition and the reward of specific privileges and negatively by ridicule. (Center for Applied Linguistics, 1969:6)

This social simulation game allowed the students to play the role of a co-operative member; a role which they could play in adult life. This idea of having "tasks miniaturized and simplified for children" (Friesen and Moseson, 1971:22) and adult roles to play fits in well with Indian educational methodology.

The elements of play and gaming were an integral part of the Indian child's socialization process (Pesavento, 1975). "Activities were adapted to resemble as closely as possible the actual deeds of hunting and warfare as the youth matured" (Friesen and Moseson, 1971:23). Observation of role performance, imitative play, private practice of the role or skill, and subsequent display of the skill when the child felt he had accomplished it, were the steps in the learning process for Indian children (Murdock, 1974; Philips, 1970:387). Roshner found that Kwakuitl children typically learned by observation, manipulation and experimentation (Centre for Applied Linguistics, 1968:6). This learning approach was applied to the social simulation games as each participant utilized: the information concerning the role he was to play, the ideas gleaned from his previous experiences, his peer group members as models, as well as the feedback from the peer group interactions. If an inappropriate strategy was chosen in terms of production or involvement in group processes, opportunities existed to attempt an alternative solution without embarrassment.

Indian students have been hesitant to show their level of achievement in large class activities because they are afraid of class ridicule if they are wrong and similarly, ridicule if they are interpreted as
attempting to show off their individual ability (Dumont, 1970). This social simulation game provided a situation, as have others, where Indian students could relate and interact in a relatively free and relaxed manner. Discussion in the groups accompanied the production process.

Because of second language difficulties and/or a different standard of English, Indian students do not perform as well as some other groups on written activities (Havighurst, 1970). Most school activities and forms of evaluation depend heavily on reading and writing skills. If the student is not performing well in these skills, then he meets with little reward and consequently feels he is a failure (Berry, 1968). Social simulation games can provide for an interplay of situation specific verbal activities and non-verbal activities. An ability to make decisions and choose an appropriate strategy are often more relevant than one's reading skills in many social simulation games (Boocock, 1966). In Wechihtowin the participant's creative ability and his earnestness in production were more relevant than his reading ability. A mathematical ability was an asset in the simulation but the particular skills needed could be learned in the simulation. If there is no connection between one's academic achievement in the classroom and one's performance in the social simulation game, as indicated by Boocock (1966), then this would be an advantage for many Indian students as they are performing several grades below their proper age-grading level according to standardized tests. This aspect was born out in the simulation as the first group to complete the square completion game at the beginning of the simulation were the lowest achievers in the class (teacher evaluation). Several of the highest producers in the simulation were from the lowest achiever group as well.
Some teachers are confronted with the problem of a silent student response in class discussions (Dumont, 1970). By contrast these same students can verbally shake the leaves off the trees in the school playground at recess. Experimenters with social simulation games have noted the intense involvement of students in the simulation process -- activity and verbalization are repeatedly mentioned (Boocock, Inbar). This atmosphere characterized the simulation. Students conversed freely in their work groups. They were willing to ask questions and discuss the activities with the researcher. Their general enthusiasm was indicated by their expressed desire to stay longer in the class, by students returning during their free time to continue production and by their willingness to attend meetings during their lunch hour.

Another area where simulation games are relevant for Indian students is in the area of intuitive thought. As indicated earlier intuitive thought and a holistic approach are encouraged by the social simulation process. In contrast to the linear thought process employed by western thinkers, Indian people have been characterized as using a holistic approach (Murdock, 1973:3).

For all those complex interactive processes, which we study particularly in the field of social studies and the social sciences, the simulation approach is a way of presenting the realities of simultaneous interaction more accurately and effectively than any verbal description can. (Abt, 1967:2)

Because most social simulations are a complex interplay of various social processes, they can be appropriately viewed and solved by applying a holistic approach if desired. Murdock alludes to the simulation process when he says, "there are some traces of those principles [intuitive-holistic] in the Montessori and Language Experience educational methods, by which pupils learn in a miniaturized adult environment" (Murdock, 1973:4)
This idea of a miniaturized environment is what this simulation game and others are based upon. Work experiences were provided which gave students insights into the operation of a business. Certain aspects of the business world were simplified in order to operationalize the model.

According to various authors (Bear, 1966; Gue, 1967) Indian people are collectivistically rather than individualistically oriented. The present school system tends to emphasize the individualistic approach by giving, for example, marks for individual effort as dictated by the Bell curve. Indian students often express a preference for a group approach to a learning situation (Northey, 1976). This social simulation game permitted a group of students to interact and decide upon a mutual course of action, thus permitting a collectivistic approach to be followed. This collectivistic orientation was evidenced when three of the four co-operatives decided to divide the dividends evenly among the group members. An individualistic approach was not chosen.

Linked to this orientation is the Indian person's values with regards to competition and co-operation. Traditional Indian culture did not emphasize individual competition, rather group co-operation was valued (Mandlebaum, 1940:72). Social simulation games can be developed to encourage co-operation or competition depending on how the goals and rules are outlined. Games which encourage group co-operation would be able to utilize the Indian student's traditionally family based co-operative approach.

By establishing a group of four or five students as a co-operative in the simulation, by encouraging co-operation at the outset with the square completion game and by permitting the group to make decisions, a co-operative atmosphere was established. Results of the questionnaire
indicated that the students felt they could co-operate, and enjoyed the co-operative experience.

Inter-group competition was also a part of Indian culture. For example, horse stealing was practiced among the prairie tribes and brought honor to the people who were able to accomplish this feat. In recent comparative studies between Indian and non-Indian students, Philips (1970:379) found that Indian children took part more in team competitive games in the playground more frequently than non-Indians (who favored individual competitive games). This concept was built into the simulation as there was an element of competition among the co-operatives to produce more jewelry. There was also the federated co-operative's competition with other businesses when they sold their product. Thus, group co-operation and inter-group competition was built into a social simulation game suitable for Indian students.

Goals in social simulations are usually clearly outlined and the rewards for participating are built into the simulation. If the Indian student understands the goals and feels he can participate by utilizing his own learning approach, then he is more likely to feel that he can succeed. This simulation had a very positive effect in the participants' faith in themselves and their abilities to create a positive future. With regards to goals and rewards, Indian students are traditionally less future oriented than non-Indian students (Gue, 1967; Bear, 1966). They may not be motivated by goals such as grades at the end of the year, or some other delayed gratification after they graduate from school. In simulation games, the rewards are seen as more immediate and consequently more attainable by the Indian student. In Wechihtowin the students had the social rewards of participating in a group activity and the financial
rewards through their wages and dividends.

With an early childhood pattern of dependency on personal relationships, the Indian child has difficulty in coping with an apparent lack of intimacy or close personal relationships in school (Murdock, 1970:10). "The value of social harmony takes precedence over task achievement and a task cannot be separated from the relationship of the individuals performing it" (Kleinfeld, 1974:20). In addition she indicates that an emotionally warm, personalized relationship is an important part of a successful teacher-pupil relationship with Indian students. This emphasis on the social aspect was evident in responses to various items on the questionnaire. The participants commented on the enjoyment derived from working in groups. The change in the teacher's role also helped to make the environment more personal. By allowing peer group involvement and by changing the role of the teacher from a judge to a guide, this simulation game provided a valid and meaningful approach to personalized relationships for Indian students within the school.

As part of their childhood rearing practices, Indian students are treated as adults by community members at an earlier age than in non-Indian families. The students are permitted to make decisions on their own, but are expected to take into consideration the group's needs and expectations (Philips, 1970:385). The contrast between the school and the Indian student in this area becomes more prevalent at the junior high school level. If the teacher relies heavily on his role as a judge, then difficulties can arise. Simulation games alter the role of the teacher (Abt, 1970) which brings the teacher's role more in line with the role of members in the community in relationship to the students, i.e. that of a guide. Since this social simulation game and others are based on the
participants making decisions, choosing alternatives and trying them out, they tie in effectively with the Indian student's view of himself in the learning process.

In addition, since Indian students are considered adults, the more life-like the school situation can be made then the more they will relate that to their role in the community. Because social simulation games endeavor to represent a model of reality, they can assist in producing this life-like aspect in the classroom (Boocock, 1968).

The intention of this section has been to show that social simulation games are appropriate for all students and are particularly pertinent and relevant for Indian students. This does not mean that they will solve all the difficulties encountered by Indian students.

At this point little research has been conducted in the area of the utilization of social simulation games with Indian students. A new look has to be made at the learning styles and approaches being used by Indian students in order to better meet their needs. Development of social simulation games based on these Indian student's learning approaches may be a step in the right direction.
Chapter 6

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

SUMMARY

This study attempted to develop and implement a social simulation game for Indian junior high school students based on the operation of a federated co-operative. Contingent on this was the development of a research design which would test the research hypothesis and provide information for making changes in the simulation itself.

There were two main objectives for pursuing this project. One objective was to provide knowledge concerning Indian students and their participation in social simulation games. There is at present little available material in this area. The second objective was based on the premise that the present education system is not meeting the needs of the Indian students. Changes have to be made in the educational system and new learning approaches developed so as to meet the needs of Indian students. In attempting to meet these needs through the social simulation game Wechihtowin, it was anticipated that the participants would indicate a positive change in feelings of self-esteem, co-operation and economic efficacy and a decrease in their feelings of powerlessness.

The experimental design that was employed was the pretest-posttest control group design. The school structure prevented randomization of the subjects. The control group was a grade seven class of Indian students while the experimental group was a grade eight group of Indian students.
The following instruments were utilized to test the hypotheses statistically: Inventory A - Self-esteem, Inventory B - Powerlessness and Economic Efficacy and Inventory C - Attitudes Concerning Self and Others.

The experimental group participated in the social simulation game Wechihtowin while the control group received no treatment other than their regular classroom activities.

An analysis of covariance was conducted on the data dealing with the variables of self-esteem, powerlessness, and economic efficacy. For each of the above tests the level of significance was set at .05.

To evaluate the hypothesis dealing with the method of dividing the dividends, the "Final Report Form" for each co-operative was analyzed.

In addition to these testing instruments, a questionnaire was developed which attempted to elicit the participants' opinions about the social simulation process and to determine what they had learned as a result of their involvement. Observation records were also used to confirm these findings.

The results of the tests, questionnaire and observations were reported and interpreted in Chapter 5.

CONCLUSIONS

The following tentative conclusions have been arrived at regarding the hypotheses and the original questions associated with the simulation Wechihtowin after study of the available data.

1. The social simulation game Wechihtowin did not produce a statistically significant positive change in Self-esteem according to the self-esteem inventory. Although not statistically significant, the results of the Myself Inventory indicated that the experimental group
changed more in a positive direction about themselves than did the control group. The participants became more positive about Indians and their way of life as well.

2. The economic efficacy scores did not indicate a significant positive change. Analysis of the items revealed that there was a positive trend in their outlook.

3. The social simulation game did not produce a significant decrease in the subjects' feelings of powerlessness as measured by the powerlessness scale.

4. There was a statistically significant positive change in terms of how the participants viewed their future.

5. The subjects felt that their ability to co-operate in groups had increased.

6. The participants preferred to divide the dividends equally among their members rather than in proportion to the amount sold or amount produced or some other factor.

7. The currency system, the operation of the store, and the job rotation system proved cumbersome and lacked credibility. Other changes should be made in terms of more group discussions of problems encountered and more practise in applying business concepts such as cost and mark-up. Follow-up decisions about low producers and involvement of outside resource personnel such as Indian businessmen should also be included.

8. The participants recognized the need for co-operation, improved their perceived ability to co-operate and in turn improved their actual co-operative behavior as observed in the simulation.

9. The participants recognized the need to maintain records, but placed more emphasis, by comparison, on the social interaction aspect of
10. Certain problems such as the low producer or poor attendance were recognized but some groups tended to avoid making any decisions about them.

11. The participants enjoyed the social simulation game approach and felt comfortable being involved in it.

12. The participants were able to operate businesses which produced dividends.

13. The social simulation gaming process is a valid instructional approach for Indian junior high students. Further social simulation games should be developed and tested.

RECOMMENDATIONS FOR CHANGES IN THE SOCIAL SIMULATION GAME WECHIHTOWIN

1. Discussion as to how the dividends are to be divided should be conducted when the co-operatives are set up and agreed to at that time.

2. If Wechihtowin is the students' first introduction to business, then the transactions should either be conducted only in currency or only be cheques to avoid confusion.

3. The time period for the operation of the business should be extended to enable the students to understand the rotating jobs more easily and to give each person an opportunity to perform each of the jobs.

4. Some sessions of a half day or more should be employed so as to give the students a better feeling of the routine involved in a job.

5. Students should purchase or order the supplies themselves so that they understand that there is a cost involved.
6. More general federated co-operative meetings should be planned to discuss problems of production and other issues as they develop.

7. Co-operatives should be forced to come to grips with the problem of a poor producer. The co-operative could have such alternatives as setting limits for their members or deducting from the person's wages.

8. The operation of the co-operatives should be co-ordinated with the school math program so that the necessary math skills would be reinforced.

9. Outside resource people such as Indian business people in the community, local bankers and band council members should be involved in the classes.

10. Time should be set aside for periodic analysis of the charts and tables by the co-operative members.

11. Films based on other co-operatives, in particular Indian co-operatives, should be built into the simulation game so that the participants get a better grasp of the total economic situation.

12. A trial sale should be held when a few of the items are made to serve as a motivating force and to see what type of items would most satisfy the consumers.

13. The play money utilized in the simulation should be recognized as a type of currency in school activities such as bake sales, dances, and other activities when money is required.

14. The directions for filling out each of the forms should be written out in short, concise terms with examples provided so that the students could gain experience in filling forms and do so independently.
SUGGESTIONS FOR FURTHER RESEARCH

1. It is recommended that further testing be conducted utilizing a variety of tests to measure self-esteem, economic efficacy, and powerlessness with Indian students.

2. It is recommended that the social simulation game Wechihtowin be implemented in other classroom situations and further testing conducted.

3. It is recommended that tests be conducted to measure the long-term effect of the simulation.

4. It is recommended that the reasons for differential individual productivity be investigated.

5. It is recommended that since little research has been conducted utilizing simulation games with native students that a variety of simulation games should be employed to see what types would be most successful with Indian students.

6. It is recommended that social simulation games be tested to see if there is any difference in effect due to the sex or age of the subjects.

7. It is recommended that social simulation games be tested with different Indian groups to see if the effects are the same.

RECOMMENDATIONS FOR EDUCATORS

1. It is recommended that other short-term simulation games be utilized to clarify specific concepts such as cost and mark-up.

2. It is recommended that the social simulation game Wechihtowin be part of a larger unit on "Indian People and the Business World."
3. It is recommended that a list of supplementary material for this unit on co-operation be developed.

4. It is recommended that a teacher's manual with general background on basic economic principles and co-operatives specifically be developed in order to better use this game.

5. It is recommended that students themselves be involved in the development of simulation games for classroom use.

6. It is recommended that appropriate existing social simulation games be adapted to meet the needs of Indian students and that other new simulation games be developed.

7. It is recommended that teachers in training and teachers in the field participate in workshops on simulation games so that they can be informed about the process of simulation and as a result manage these simulation games more effectively.

8. It is recommended that Indian people be involved in producing social simulation games so that their particular learning approach may be implemented in the simulation process.

9. It is recommended that Indian people develop social simulations games on topics such as the treaties, the Indian Act, government on reserves so that both Indian students and non-Indian students can become more aware of these topics.

10. It is recommended that groups anticipating the establishment of a co-operative should participate in a simulation game like Wechihtowin before they establish a more permanent operation.

11. It is recommended that a clearing house be established to gather and make available social simulations which have been developed for, or used with Indian people.
IMPLICATIONS OF THE STUDY

There is sufficient justification as a result of this preliminary study for further development, implementation and testing of the social simulation game Wechihtowin. The statistically significant positive effect on the students' feelings about their future has a parallel implication for the development of social simulation games in general. Although not statistically significant, Wechihtowin showed a positive effect on the participants' feelings of economic efficacy, self-esteem and co-operation.

The participants enjoyed the social simulation game. Students outside of the social simulation game requested that Wechihtowin become part of their class activities as well. Since the students enjoyed this learning process, development and testing of other social simulation games needs to be conducted. This would also entail teacher training institutes familiarizing prospective and present teachers of Indian students with the social simulation game process.

Wechihtowin has implications for people who are involved in co-operative education. By utilizing an adaptation of this social simulation game, prospective co-operative members could be introduced to co-operative principles in a meaningful way. The members would then be better equipped to manage their prospective co-operatives.

Social simulation games are also relevant for the community development process as they can serve as a forum for learning about and attempting alternative strategies for solving community issues.

Wechihtowin showed that a group of Indian junior high school students without previous experience could operate a successful business.
If this particular groups of students could do so, then other groups of students can as well.

Student comments and reactions validate the social simulation game process for the author. For example, the expression on a student's face when a customer said: "I like your work!" rewarded the student and demonstrated the value of Wechihtowin. During the initial activities of Wechihtowin one student expressed the opinion: "I don't think we can run a business." His comments at the completion of the social simulation game summed up the effects of Wechihtowin and offers many implications for educators when he said: "We made it! Our business really worked!"
BIBLIOGRAPHY

Books


Bryde, J. F. Modern Indian Psychology. Vermillion: South Dakota Institute of Indian Studies, University of South Dakota, 1971.


Chase, D. They Dared to be Different. Regina: Dept. of Co-operatives and Co-operation, 1974.


Shirts, Garry. Starpower. La Jolla: Western Behavioral Sciences Institute, 1969.


Periodicals


Articles in a Series


Unpublished Sources: Reports and Theses


APPENDIX A

STUDENT INVENTORIES
STUDENT INVENTORY A

Please mark each sentence in the following way:

If the sentence describes how you usually feel, shade in the letter a == (Like me). If the sentence does not describe how you usually feel, shade in the letter b == (Not like me).

Remember there are no right or wrong answers.

This is:

<table>
<thead>
<tr>
<th>Like me</th>
<th>Not like me</th>
</tr>
</thead>
</table>

1. I think I'm as good as everybody else.
2. I usually do the wrong things.
3. Things often bother me.
4. I am much like other people.
5. I find it hard to talk in front of the class.
6. I do all right in school.
7. No one pays much attention to me at home.
8. I often feel left out of things that are going on around here.
9. There are many times that I'd like to leave school.
10. I am usually able to get the things that I need by myself.
11. No one pays much attention to me at school.
12. Kids usually pick on me.
13. There are many times I'd like to leave home.
14. I can make up my mind without too much trouble.
15. I think that most people understand the way I feel about things.
16. Others have to help in in the things I need.
17. I usually do what my parents want me to do.
18. I have trouble making up my mind.
19. My parents expect too much of me.
20. I usually do the right thing.
STUDENT INVENTORY B

Please mark each sentence in the following way:

Shade in only one answer for each sentence. For example, if you slightly agree with the sentence then you would shade in the letter "b" space.

Remember there are no right and wrong answers.

Work through the sentences quickly.

1. Trying to figure out how to get ahead in life is just too hard.
2. Things are changing so fast these days that one doesn't know what to expect from day to day.
3. I feel I could work in a business to make it succeed.
4. I feel I just can't do anything right.
5. I often feel as if it would be good to get away from it all.
6. I can't understand what goes on in business.
7. It's getting harder and harder to have a happy family.
8. In order to get along in the world it's best to do what you are told.
9. What happens in a business organization will happen no matter what people do. It is like the weather, there is nothing people can do about it.
10. Raising a child today makes anyone worry a lot.
11. These days a person must look out for himself since there is no one else to depend on for help.
12. Running a business is too difficult.
13. Most people don't know how much their lives are run by other people.
14. Today a person can hardly do the things he would like to do.
15. I can work well in a group.
16. Sometimes I feel like people are using me.
17. People are too busy to help each other today.
18. I could succeed at a job.
19. There are so many problems to deal with today that sometimes I could just "blow up."

20. People say so many things that one does not know what to believe.

21. I could run a business.

22. There are so many ideas about what is right and wrong these days it is hard to make up your mind about anything.

23. Sometimes I feel that I am not sure where I'm going in life.

24. Indian people can run successful businesses.
STUDENT INVENTORY C

We want to know how you feel about various people and things. Beneath the name of each person, idea or thing you will find a series of scales of opposite words. Locate the person or idea or thing where you think it belongs on each scale.

For example: suppose you have a person, Cowboy, and beneath it the scale Good - Bad:

<table>
<thead>
<tr>
<th>Good</th>
<th>Very</th>
<th>Fairly</th>
<th>Some-</th>
<th>Some-</th>
<th>Fairly</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Good</td>
<td>what</td>
<td>what</td>
<td>Bad</td>
<td>Bad</td>
<td>Bad</td>
</tr>
<tr>
<td>good</td>
<td>bad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you think a Cowboy is very good, mark a cross (x) in the large circle on the left. Or if you think a Cowboy is fairly good (but not very good) mark a cross in the next big circle. But if you think a Cowboy is only somewhat good or neither good nor bad, mark a cross in the next small circle. If you think a cowboy is somewhat bad, fairly or quite bad, or very bad, mark a cross in the proper circle on the other side of the scale.

You would mark only one of the circles for each pair of words.

Work as fast as possible; do not stop to review or think about your crosses. We are interested in your first impression and your real feelings.

MYSELF

GOOD 0 0 0 0 0 0 0 BAD

Worthless 0 0 0 0 0 0 0 Valuable

Weak 0 0 0 0 0 0 0 Strong

Happy 0 0 0 0 0 0 0 Unhappy

Lazy 0 0 0 0 0 0 0 Active

Smart 0 0 0 0 0 0 0 Dumb

Friendly 0 0 0 0 0 0 0 Unfriendly
<table>
<thead>
<tr>
<th></th>
<th>INDIANS</th>
<th>MY FUTURE</th>
<th>THIS SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Worthless</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Weak</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Happy</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Lazy</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Smart</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Friendly</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
</tr>
</tbody>
</table>

- Good: 0
- Worthless: 0
- Weak: 0
- Happy: 0
- Lazy: 0
- Smart: 0
- Friendly: 0
APPENDIX B

QUESTIONNAIRE
QUESTIONNAIRE

1. How did you enjoy the classes that you were involved in the co-operative? (Circle one of the following.)
   Not at all  A little  Quite a bit  Very Much

2. If we were able, would you want to continue working in the co-operative? _______________

3. If you had 15 classes to spend working in a co-operative in school, would you rather have them over three weeks or a longer period of time?

4. What did you enjoy the most about working in a co-operative?

5. What did you enjoy the least about working in the co-operative?

6. How well do you feel your group co-operated?

7. What problems did your group have in co-operating?

8. What would you do differently if you had a chance to work in a co-operative again?

9. What did you learn from being involved in the co-operative?
10. Did the co-operative succeed more or less than you expected?

11. Do you feel your own production was high enough?

12. If you said "no" to question 11, explain why it wasn't higher?

13. What things didn't you understand in the classes dealing with the co-operative?

14. What problems do you think businesses have?

15. If your company paid $27.00 out in wages and $6.30 for supplies, and sold $42.00 worth of jewelry, what is its profit?

16. What things are important for a successful business?

17. What things would you change in the classes on co-operatives to make them better?
APPENDIX C

PARTICIPANT'S INFORMATION AND FORMS
What do you think a co-op is? At first we really weren't sure what one was. As time went on we began to understand better. We named our co-op "Nouhla Co-op" which means 'our hands' in Chipewyan. We used our hands to make different designs in clay. These small pieces of clay we used to make pendants. We then took the clay to a kiln and loaded them in. As the kiln goes up to 2200 °F, it dries and hardens the clay. We glazed them with different types of glazes and put them back in the kiln so the glaze would become like glass. When a cord is tied to the pendant it makes a nice necklace.

During the time that our co-op operated, we kept track of the hours that each person put in and also how many pendants that each member made each day. As the weeks passed our production climbed very quickly. We voted to set a minimum number that each had to produce during the period. When the actual production of pendants stopped, we had made over 500!

Then we had to market our products. One weekend two carloads of us went to Edmonton to sell our pendants in the Bonniedoon Shoppers Mall. It was a successful day as we sold about $155.00 worth. A lot of people stopped to look and comment about our work. A week later we went to Medley Air Base to display and sell our pendants. We had a lot of fun watching little kids come and ask questions about what the pendants were made from, how come they were so shiny and so on. Some people asked about the designs that were on the pendants which made us think more about them. In all we sold $123.00 of our work. The second time that we went to the air base there were fewer people so we only sold $40.00 worth. That same day we also displayed and sold our handiwork at the Air Base Art Show. People seemed to want things that were handmade. During the Lake Land Art Show we also sold our products. During the Indian Heritage Days at the Hudson Bay Store in Edmonton, our pendants were displayed and sold. Selling our products gave us a chance to talk to many different people.

So far we have made almost $500.00 profit. We found out that operating a business can be both profitable and fun. We learned a lot of different things such as how to keep books for a small company, how to work and manage groups, how to market products and many other things. We can use these experiences after we get out of school.

Written by: Dennis Scanie
Dorothy Scanie
Violet Metchewais
BROKEN SQUARES - OBSERVATION FORM

1. One of your jobs is to make sure that these two rules are followed:
   a. No person in the group may speak.
   b. No person in the group may ask any other person for a piece of paper or signal that he wants a piece of paper.
   c. Any person may give a piece of paper to any other person.

2. Who gave the first piece of paper away? ________________

3. Did anyone seem frustrated? How did they show their frustration?

4. Did anyone seem to give up.

5. Were the people willing to give up the pieces of paper to others?
THE _______________________________ HEREBY AGREES TO

REPAY A LOAN IN THE AMOUNT OF _______________________________

TO THE ONION LAKE BANK PLUS INTEREST AT THE RATE OF _______ PER YEAR.

THIS LOAN IS TO BE PAID IN FULL BY DECEMBER 20, 1976.

SIGNATURES OF CO-OP MEMBERS

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

AUTHORITY TO WRITE CHEQUES:

________________________________________
### JOB SCHEDULE

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Dates</th>
<th>NAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attendance graph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Account</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income-Expenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheques</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Store</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**DAILY EMPLOYEE RECORD**

<table>
<thead>
<tr>
<th>EMPLOYEE:</th>
<th>DATE</th>
<th>HOURS</th>
<th>PRODUCTION</th>
</tr>
</thead>
</table>


### WEEKLY PRODUCTION REPORT

**WEEK OF:**

<table>
<thead>
<tr>
<th>NAME OF EMPLOYEE</th>
<th>PRODUCTION</th>
<th>HOURS</th>
<th>AMOUNT PRODUCED PER HOUR</th>
<th>WAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td>$ ___</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td>$ ___</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td>$ ___</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td>$ ___</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td>$ ___</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td>$ ___</td>
</tr>
<tr>
<td>DATE</td>
<td>CHEQUE MADE TO</td>
<td>AMOUNT</td>
<td>BALANCE</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
<td>--------</td>
<td>---------</td>
<td></td>
</tr>
</tbody>
</table>

CURRENT ACCOUNT NUMBER

CO-OPERATIVE
<table>
<thead>
<tr>
<th>DATE</th>
<th>ITEM</th>
<th>INCOME</th>
<th>EXPENSE</th>
<th>BALANCE</th>
</tr>
</thead>
</table>

# RECORD OF SUPPLIES SOLD

<table>
<thead>
<tr>
<th>DATE</th>
<th>CASH ON HAND FROM THE DAY BEFORE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$_____</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CO-OP</th>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT PRICE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL AMOUNT OF ITEMS SOLD ON** [Date] $_____

**TOTAL CASH ON HAND** $_____

### WAGES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL NUMBER OF HOURS</td>
<td></td>
</tr>
<tr>
<td>HOURLY RATE</td>
<td></td>
</tr>
<tr>
<td>TOTAL WAGES</td>
<td>$ _____</td>
</tr>
</tbody>
</table>

### LOAN PLUS INTEREST

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ _____</td>
</tr>
</tbody>
</table>

### OTHER EXPENSES

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ _____</td>
</tr>
</tbody>
</table>

### TOTAL EXPENSES

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ _____</td>
</tr>
</tbody>
</table>

### INCOME

\[
\text{INCOME} - \text{MINUS TOTAL EXPENSES} = \text{PROFIT}
\]

<table>
<thead>
<tr>
<th>Amount</th>
<th>Amount</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ _____</td>
<td>$ _____</td>
<td>$ _____</td>
</tr>
</tbody>
</table>

### DIVIDENDS

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ _____</td>
</tr>
</tbody>
</table>

APPENDIX D

SAMPLES OF DISPLAY MATERIAL
Burwash Co-operative Association

What do you do when the one grocery outlet in your tiny community closes down for the winter? If you are the enterprising Kluane Indian Band you form a co-op to operate your own grocery store.

This is what happened in 1972 when the Indian village at Burwash Landing, a small Yukon settlement on the Alaska Highway, faced the bleak prospect of no local grocery outlet when the Burwash Lodge shut down for the winter.

Deciding that a co-op run store might present a viable alternative, the Band asked the regional office if it would undertake a feasibility study. When the results proved favourable, it obtained loans from the Indian Economic Development Fund to purchase inventory and acquire the services of an outside manager.

Finding a manager willing to work in a remote village on a salary the co-op could afford posed a problem. Fortunately, however, the Band was able to engage Ranier Giannelia, an experienced co-op official, to provide managerial and training assistance.

The Burwash Co-op store is now successfully launched. We wish them good fortune in the future.

Well stocked shelves carry a wide variety of groceries and dry goods.

A resident of Burwash Landing displays beadwork souvenirs she has made.
A valuable new industry has been acquired by Oo-Za-We-Kwun, the Indian training centre located on the site of a former air force base at Rivers, Manitoba.

The new industry is a bicycle plant operated by Sekine Canada Limited, a subsidiary of the world famous Japanese firm. It joins three other manufacturing operations at the training centre — Fibrelex which employs forty persons in the manufacture of canoes, Pioneer Cabinets which will employ about eighty persons and Edson Campers with a work force of fifty.

Forty-five Indians now work at the Sekine Plant, learning technical skills which they can later put to use in Manitoba's towns and cities. While they work their families receive training which will enable them to adapt to a new way of life in Canada's modern technological society; for Oo-Za-We-Kwun is designed to be a kind of halfway house to help families who decide to move from reserves to take up a new life in the towns and cities. Families live and work at the training centre so that they can step out on their own at the end of the training period.

Oo-Za-We-Kwun, which was established by the Manitoba Indian Brotherhood and the Department of Indian Affairs, is managed by a private board. The latter includes representatives from both the Department and the Brotherhood.

**Quatqua**

Assistance was provided to help the Band to form their Company and, in conjunction with the C.E.S.O. Consultant, the equipment requirements were assessed. Two loans were subsequently approved, one for the purchase of equip-


Last Oak Park Development Corporation

A large, multipurpose recreation development, Last Oak Park, is transforming the lives and lands of the members of the Sakimay, Ochapowace, Cowessess and Kahkewistahaw Bands in Saskatchewan's Qu'Appelle Valley.

Estimated to cost three million dollars, when completed, the complex will eventually include an 18 hole golf course, 90 campsites, a beach development, picnic areas, cottage subdivisions, access roads and an Indian theme centre in addition to the recently opened skiing facilities.

An important milestone in the long range undertaking was reached in January, 1973 with the official opening of the skiing facilities. These — the largest component of the development — include a ski lodge, with pro shop, lounge and food service; five major ski runs; lifts and a snow-making system. The Bands provided the work force for developing and clearing the slopes and for constructing and installing the buildings and tows.

The project traces its beginning to the Band’s formation of an interim development committee in 1968. With the chiefs of the four reserves playing a major role, the committee proceeded to identify and assess the underdeveloped commercial potential of the reserves, using funds from ARDA and DIAND to hire outside consultants. This culminated in the establishment of the Last Oak Park Development Corporation, comprising members of the four reserves, and in the creation of a long range development plan for a recreation park complex.

In April, 1971, the Department of Regional Economic Expansion (DREE) and the Saskatchewan government signed an agreement to provide the Corporation with financial support for undertaking a program of economic development and social adjustment involving members of the four Bands. The development was to take place in three stages and over a period of nine years.

The undertaking is now providing employment opportunities and additional income as well as work experience and training for Indians on the four reserves. Counselling and special training programs are furnished by the Saskatchewan Department of Education, the federal Department of Manpower and Immigration and DIAND.

The Last Oak Park Development Corporation is managed by Dave Acoose and is operated entirely by local Indian people. Other Band members not directly employed by the Corporation, however, are showing an interest in establishing private commercial enterprises which help to diversify the Park’s services. These would include motels, gas stations and laundromats.

There were, of course, a host of problems to be overcome in launching this great enterprise. The major difficulty experienced by the Corporation was to communicate the idea of the commercial development to members of the four Bands and obtain their collective support. Another area which presented a major problem was the question of land tenure; it was a long time before the Bands finally agreed to a lease of the necessary land for the development for a specific period of years.

The Company's legal adviser is presently processing a head lease through which the Company will lease the property from the Federal Crown on behalf of the Bands concerned. The company will pay a rent to each of the bands from its profits.
"Indian involvement from the producers to the Board of Directors has made the Battleford Native Handicrafts Co-op Ltd., (BNHC), successful" according to Manageress, Mrs. Levesque.

While many small businesses across Canada face bankruptcy at an increasing rate every year, the Co-op has soared from a $9,000 business in 1971 to a successful enterprise which this year may reach an all-time high of $150,000 in sales.

Planning for profit has been the key to success for the Co-op. All raw materials are purchased in bulk. Leather alone is ordered in lots of $7,000 to $10,000. Another factor in the success of BNHC has been their corporate philosophy that all work must be of a calibre sufficiently high to reflect Indian crafts as luxury items.

The producers have been particularly concerned with keeping all Indian crafts traditional, although modern designs of slippers and apparel have not hampered their style. All designing is carried out in the shop with the approval of the Board of Directors.

Much of the work is done at home by over 200 producers living on 19 Indian reserves around North Battleford, Saskatchewan. At present there are 13 full-time Indian people employed with the business located on the outskirts of Battleford.

In 1971 when the business was located in a smaller shop in the heart of North Battleford, it was experiencing some difficulty partly because of the location and because all work was hand-crafted. Today they are becoming partially mechanized and sales in 1972 under new management shot from $9,000 to $53,000. Last year the business sold $70,000 worth of hand-crafts to retailers and wholesalers including Central Marketing Service in Ottawa. Their first priority, however, is to supply their own shop, a renovated service station which they purchased with the help of the Indian Economic Development Fund.

Among equipment presently being used to produce crafts right at the shop are a vamp machine, a cutting machine and a heavy-duty machine for sewing rabbit parkas and other apparel made from fur or leather. The Co-op also owns a chiver, a machine used for sheering sheepskin designed into their mocassins, slippers and mukluks. Beadwork is still done by hand.

Extensive training has been provided to over 100 women in the area through the co-operation of the Department of Manpower. The six week training courses included leather work and processing, traditional design, soapstone carving and porcupine quill work. Only 8 women take the course at any one time to maximize their learning experience. Mrs. Levesque was careful to point out that no one should be misled by the types of courses offered to the women. She mentioned that after some of the ladies were introduced to porcupine quill work, they remarked, "Now we know why our ancestors gave it up for beads," and none of them to date has taken up this difficult profession of adorning apparel with quill work designs. The soap stone carving also did not catch on too well, but the women have certainly exceeded all limits in their leather work and beaded designs.

Mrs. Levesque estimated that at least $54,000 has been paid directly into homes for the piece work supplied to the shop, and this figure may reach $80,000 this year. Business has been coming along so well, that she does not foresee the Co-op requiring any further assistance from the Department.

For any Indian group wishing to set up a business on similar lines, Mrs. Levesque advises "come and live with us for one or two months and learn our operation first hand." One such group from Alberta has done exactly this and enquiries have
come from as far away as the Northwest Territories. Indian crafts, she maintains, are luxury items... they must be crafted and sold as such because no one is obligated to buy them. The increasing volume of sales is proof enough that tourists and Canadians appreciate high quality craftsmanship. Success isn’t easy, she says, but it is possible in this business if you know your objectives and you plan a program of action accordingly.

The Co-op does more than produce Indian handicrafts. It has also been involved in researching traditional designs and applying them to patterns which give a modern look to the crafts. Sale of each item is also kept in line with modern prices to allow some profit to the producers. Everything is approached in a business-minded atmosphere from purchase of raw materials to production and marketing.

Asked why the business is located in the city instead of on an Indian reserve, Mrs. Levesque maintains that when selling retail it is more profitable to be in a city where the population is centred. If, however, your business is wholesale and comprises 70% out-of-province sales, the reserve is the more ideal location.

An advertising campaign amounting to $4,000 annually has also contributed to the success of the business. This includes signs and radio and t.v. advertising. But, Mrs. Levesque says, they advertise only when the price is right. Cards giving the name and address of the business are handed out with each purchase; this also has made the Co-op well known throughout Canada and the U.S.A.

What has the Co-op meant to the area? It has taken many Indians off the welfare roles and given them training in a field of traditional interest. Many of the trainees who have taken the Manpower course through the shop refused to attempt other courses because they felt they wouldn’t learn anything. Now there are 32 waiting for the next course to be offered. When the opportunity arises, Mrs. Levesque sends them a letter to inform them what will be offered and when. When they have completed the course, they receive a card which tells them they know something and the business continues to prosper.

“The world market is wide for Indian arts and crafts” and this is the philosophy which helps the North Battleford Co-op increase its inventory and its sales.