

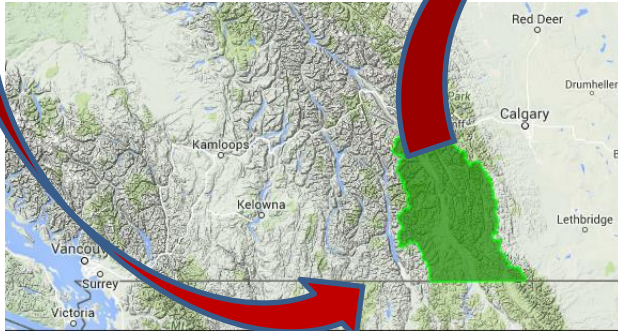
# Physical Literacy through a Lunch Hour Games Approach

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January 28, 2016



# Cranbrook, BC

College of the Rockies



## Phase I: Sept 2014 - May 2015

### Purpose:

1. To enhance Physical Literacy (PL) skills\* at a local elementary school.
2. To enhance knowledge and practical skills in teaching and assessing PL skills in a Post-secondary Teacher Education Program (TEP) and a Kinesiology Program.
3. To enhance public awareness of what PL is and introduce the LTAD model to the various stakeholders who make decisions in children's recreational and sports programming.

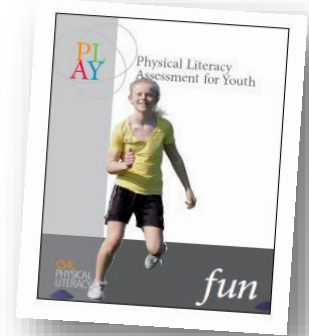
\* Physical Literacy Skills in this study are FMS and FSS



# Phase I: Sept 2014 - May 2015

## Procedure Summary:

1. Two public elementary schools were selected to participate in the applied research project.
2. EK TEP & KNES students received instruction:
  - CS4L Physical Literacy Assessment for Youth - PLAYfun Tools
  - NCCP Fundamental Movement Skills (FMS)
3. Pre-Assessment: October 2014
4. Games Sessions: October 2014 – March 2015
5. Post Assessment: April 2015





# Cranbrook Schools

## 1. Kootenay Orchards Elementary School (Control)

- Located in a higher socioeconomic area
- Has approximately 230 students
- 24 staff (lower # of IEPs)
- One of KO goals is to grow within the school and the community



# Cranbrook Schools

## 2. Steeples Elementary School (*Treatment Group*)

- located in a low socioeconomic area
- has approximately 140 students
- 20 staff (high # of IEP's)
- One of Steeples goals is to assist their students in becoming more prepared for the next stages of their education



## September 2014: Leader Training

Introduced to EK TEP and KNES Diploma students:

- Physical Literacy
- NCCP – Fundamental Movement Skills (FMS) & Fundamental Sport Skills (FSS).
- CS4L PLAYfun tools
- Knowledge and practice occurred through coursework.



## October 2014: Pre Assessment

EK TEP and KNES students assisted in data collection for all children in both schools totaling 370 children:

- K-Grade 2 children completed 6 stations of CS4L PLAYfun Tools
- Grades 3-6 children completed 12 stations of CS4L PLAYfun Tools
- All teachers received a copy and explanation on the results to help them understand the level of the children in their class.





# October 2014: Pre Assessment – CS4L Playfun Tools

**PLAYfun**

Physical Literacy  
Assessment  
for Youth

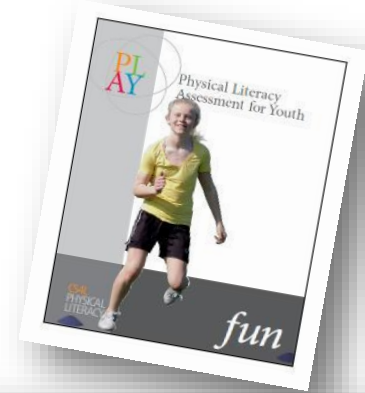
PLAYfun is intended for children aged 7 and up.

canadiansportforlife.ca  
physical literacy.ca/PLAY

Participant's Name \_\_\_\_\_ Gender: M F Age \_\_\_\_\_

Place a mark in the box that best represents the child's ability indicate if the child had low confidence, or needed a prompt, mimic, description, or demonstration for each task.

Task	Developing		Acquired		Confidence	Prompt	Mimic	Describe	Demo
	Initial	Emerging	Competent	Influenced					
1. Run a square									
2. Run there and back									
3. Run, jump, then land on two feet									
4. Crossovers									
5. Skip									
6. Gallop									
7. Hop									
8. Jump									
9. Overhand throw									
10. Strike with stick									
11. One-handed catch									
12. Hand dribble stationary & moving forward									
13. Kick ball									
14. Foot dribble moving forward									
15. Balance walk: heel-to-heel forward									
16. Balance walk: heel-to-heel backward									
17. Drop to ground & back up									
18. Get and lower									



## Stations for Assessment

	Grades 1 & 2	Grades 3 to 6
Running:	Q2: Run there and back Q3: Run, jump, then land on two feet	Q2: Run there and back Q3: Run, jump, then land on two feet
Locomotor:	Q5: Skip Q6: Gallop Q7: Hop Q8: Jump	Q5: Skip Q6: Gallop Q7: Hop Q8: Jump
Object Control – Upper Body		Q9: Overhand Throw Q10: Strike with a stick Q11: One-handed catch Q12: Hand dribble stationary and moving forward
Object Control – Lower Body		Q13: Kick ball Q14: Foot dribble moving forward

# October 2014: Pre Assessment – CS4L Playfun Tools

## Data Collection:

- 2 trained students per station
- Main researcher gave a quick demo
- Children carried their score sheet from station to station,
- College students collaborated, reviewed the CS4L rubric and selected the competence level they observed
- Competence levels were either: Initial, Emerging, Competent or Proficient.
- Consent Forms Required for data usage.

**PLAYfun** Physical Literacy Assessment for Youth  
canadiansportforlife.ca  
physicalliteracy.ca/PLAY

PLAYfun is intended for children aged 7 and up.

Participant's Name \_\_\_\_\_ Gender: M F Age \_\_\_\_\_

Place a mark in the box that best represents the child's ability. Indicate if the child had low confidence, or needed a prompt, mimic, description, or demonstration for each task.

Task	Developing		Acquired				Prompts	Mimic	Describe	Demo
	Initial	Emerging	Competent	Proficient	Confidence					
1. Run a square										
2. Run there and back										
3. Run, jump, then land on two feet										
4. Crouches										
5. Stop										
6. Cuddle										
7. Hop										
8. Jump										
9. Overhead throw										
10. Tosses with stick										
11. One-handed catch										
12. Hand dribble stationary & moving forward										
13. Kick ball										
14. Foot dribble moving forward										
15. Balance walk heel to toe forward										
16. Balance walk toe to heel backward										
17. Step to ground & back up										
18. Lift and lower										



Example

# Oct. 2014-March 2015: Games Sessions

## Steeple Elementary School

- 15 Weeks of Physical Literacy Games
  - 7 weeks ABC'S and Locomotor skills
  - 8 weeks Locomotor, and Manipulative Skills
- 2 x 30 minute sessions for Grades 1-3 (M & W)
- 2 x 30 minute sessions for Grades 4-6 (T & Th)
- Emphasis on fun, and children voluntarily joined in



# April 2015 Reassessment:





# Results:

*Table 1: Participant breakdown for the Control school*

Grade	Number of Males	Number of Females	Total number of Participants	Average Age (Yrs)
1	1	1	2	6.5
2	10	9	19	7.4
3	14	12	26	8.4
4	13	17	30	9.3
5	8	12	20	10.4
6	<u>13</u>	<u>16</u>	<u>29</u>	11.4
	59	67	126	

## Control School

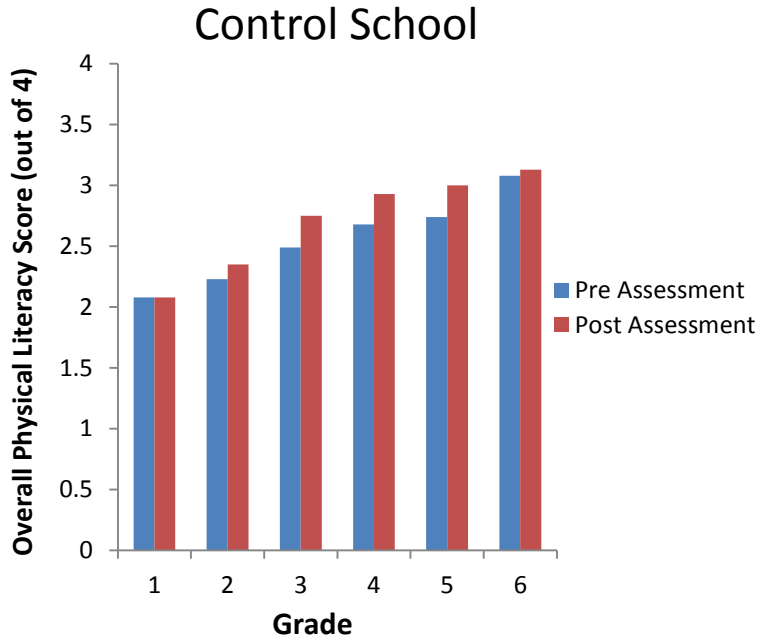
*Table 2: Participant breakdown for the Lunch-hour games school*

Grade	Number of Males	Number of Females	Total number of Participants	Average Age (Yrs)
1	4	7	11	6.3
2	4	9	13	7.4
3	5	8	13	8.4
4	9	13	22	9.4
5	8	6	14	10.5
6	<u>6</u>	<u>8</u>	<u>14</u>	11.4
	36	51	87	

## Treatment School

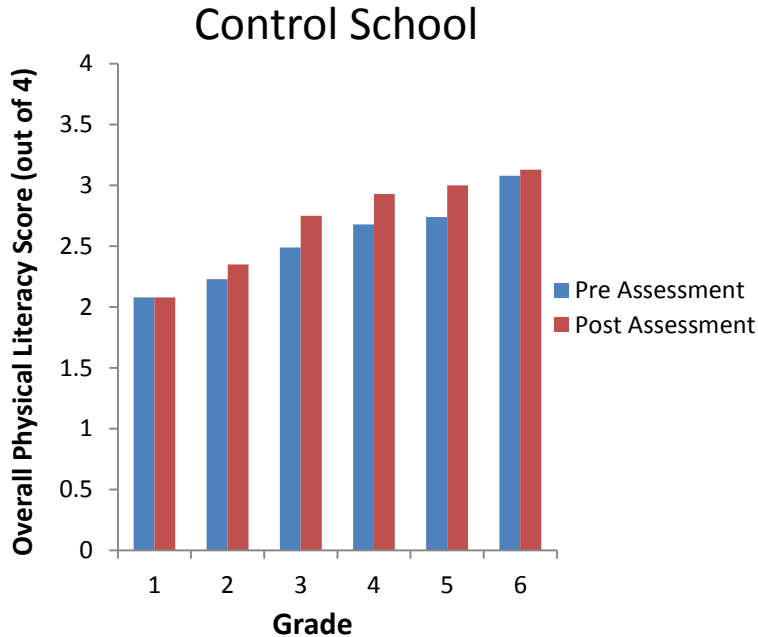


# Comparison of the Control School vs. Games school

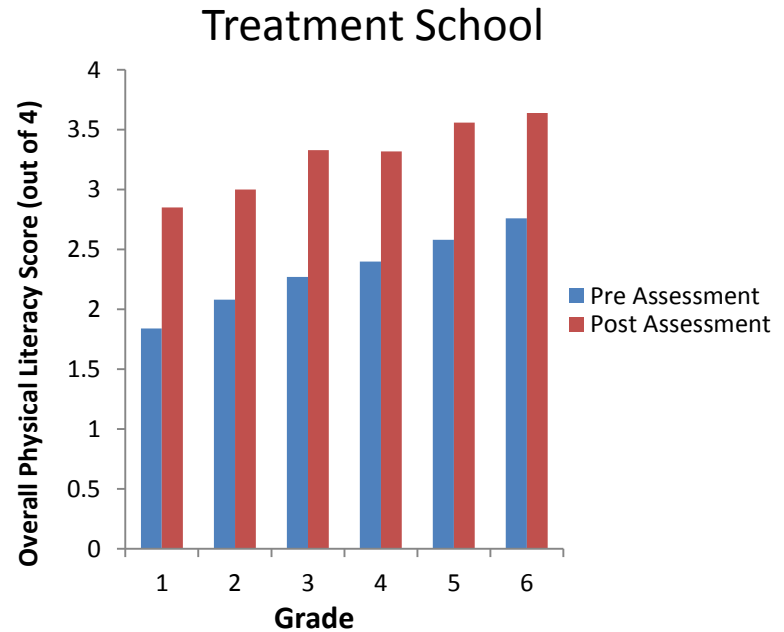


*Overall average physical literacy scores for each grade in the control group for both pre and post assessments. Grades 3,4, and 5 saw a significant difference  $p < 0.5$ .*

# Comparison of the Control School vs. Games school



*Overall average physical literacy scores for each grade in the control group for both pre and post assessments. Grades 3, 4, and 5 saw a significant difference  $p < 0.5$ .*



*Overall average physical literacy scores for each grade in the treatment group for both pre and post assessments. All grades saw a significant difference  $p < 0.5$ .*

## Did we meet our Goals?

1. Increased PL Levels with Physical Literacy Games?
2. Increased skills and knowledge in EKTEP & KNES students?
3. Increased public awareness?

Students presented to:

Peers

College Management

SD5 School Board Trustees and SD5 Senior Administration

RSA – Regional PD Day

BC Minister of Advanced Education

SHAW Cable News/Local Paper





## Plus

4. Principal reported a large decrease in bullying and behavioral problems at lunch hour when game sessions ran, and students academics improved.

5. ViaSport Sponsorship in January 2015

- Continue this study to 2016 for the 2 schools (KO & Steeples)
- Development of Games Manuals & Games Kits (Equipment)
- Cover costs for Reassessments
- NCCP - FMS courses (Facilitator Training and Community Courses)
- Poster presentation at the IPLC June 2015



## Phase I/Phase II: Sept 2015 – May 2016 (KO & Steeples)

Goals for continuation of this study for another semester

1. Continue with Assessing KO and Steeples children (ViaSport)
2. Continue with increasing inquiry based learning with EKTEP and KNES students.
3. Continue to increase public awareness of the importance of FMS and FSS development (Courses/Workshops in NCCP – FMS and CS4L PLAYfun Tools)

***Plus:*** RBC Learn to Play Grant was received to expand study further (Assess 6 more schools, and introduce Games program to 3 more schools)





RBC  
Learn to Play  
Project



# RBC Learn to Play Grantee

In partnership with



Public Health  
Agency of Canada

Agence de la santé  
publique du Canada



Sport for Life



**PARTICIPATION**

## Phase II: Sept 2015 - May 2016

### Purpose:

1. To enhance Physical Literacy (PL) knowledge and skills through PL Games and introduce CS4L PLAYfun Tools at more elementary schools .
2. To continue to enhance knowledge and practical skills in teaching and assessing PL skills in Post-secondary EK Teacher Education Program (TEP) and a Kinesiology Program (KNES) students.
3. To further enhance public awareness of what PL is and introduce the LTAD model to the various stakeholders who make decisions in children's recreational and sport programming, including parents.





## Phase II: Sept 2015-May 2016

### Procedure Summary:

1. Four public elementary schools were selected to participate in the PL Lunch hour games session from October 2015 – March 2016. Four additional elementary schools will undergo pre & post CS4L Assessment for Youth PLAYfun Tools.
2. TEP & KNES students received instruction in CS4L PLAYfun Tools and teaching Fundamental Movement Skills (FMS) and Fundamental Sport Skills (FSS).
3. Pre-Assessment: September 2015
4. Games Sessions: October 2015 – March 2016
5. Post Assessment: April 2016



## Phase II: Sept 2015-May 2016

### Procedure Changes:

CS4L PLAYfun Tools Scale changed from 1-4 to 0-100.

Grades K-3 6 to 8 stations

Grades 4-6 12 stations

Same Assessors at Stations



## Phase II: Sept 2015-May 2016

### Pre Training

COTR – KNES 202 Motor Development

EK TEP – EPHE 310 PE for Elementary and Middle School PE Teachers

COTR Student Workshops

- NCCP FMS Course
- CS4L Physical Assessment for Youth PLAYfun Tools Workshop
- Application for Criminal Record Check

\* Practice Assessment session using CS4L PLAYfun Tools for all interested Research Assistants.



## Phase II: Sept 2015-May 2016

### Pre Assessment

7 SD 5 Public Elementary Schools (K-6)

1 Independent FN School (K-6)

Grades	No. of Stations	Stations	
K-3	8	Run there and back Run, jump, then land on two feet Skip Overhand throw	Gallop Hop Jump Kick Ball
Grades 4-6	12	Above plus: Strike with a stick One Handed Catch Hand Dribble stationary & moving forward Foot dribble moving forward	



## Phase II: Sept 2015-May 2016

### Pre Assessment (8 Schools)

Assessed K-6 Students: 1508

Consent Forms Collected: 1006

Data Entry: 842

Control Group: 425

Treatment Group: 416

Control Group: Females: 209 Males: 216

Treatment Group: Females: 213 Males 203

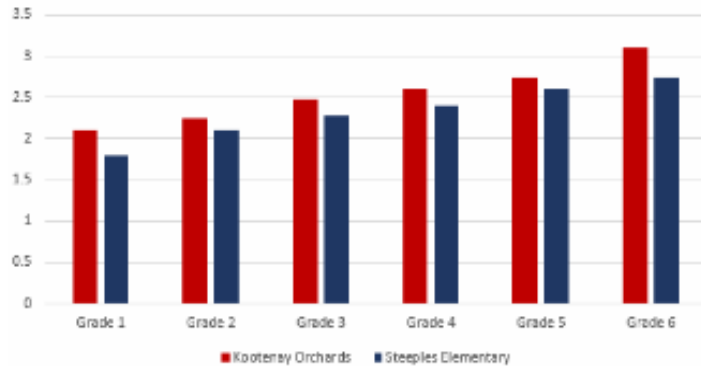




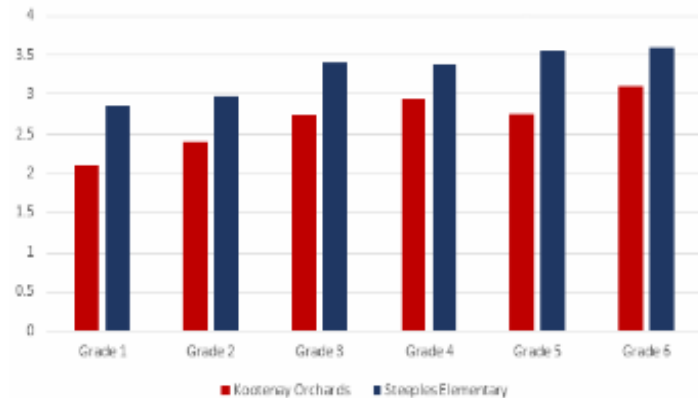
# Phase II: Sept 2015-May 2016

## Recall Phase I: KO vs Steeples

Pre Testing 2014

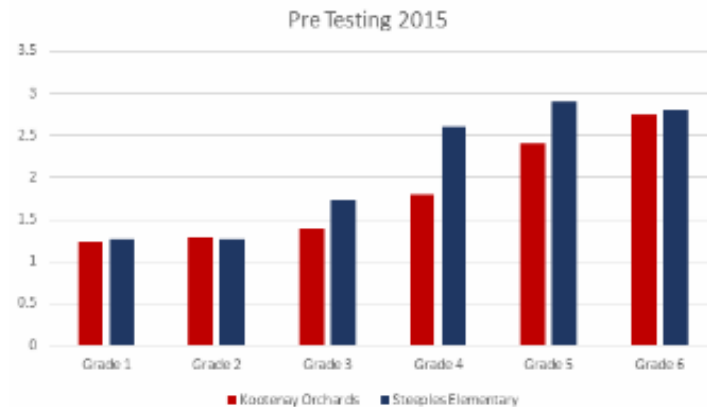
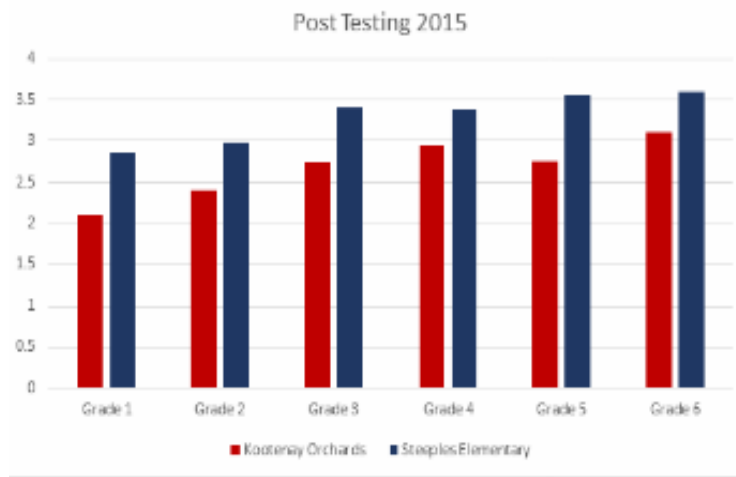


Post Testing 2015

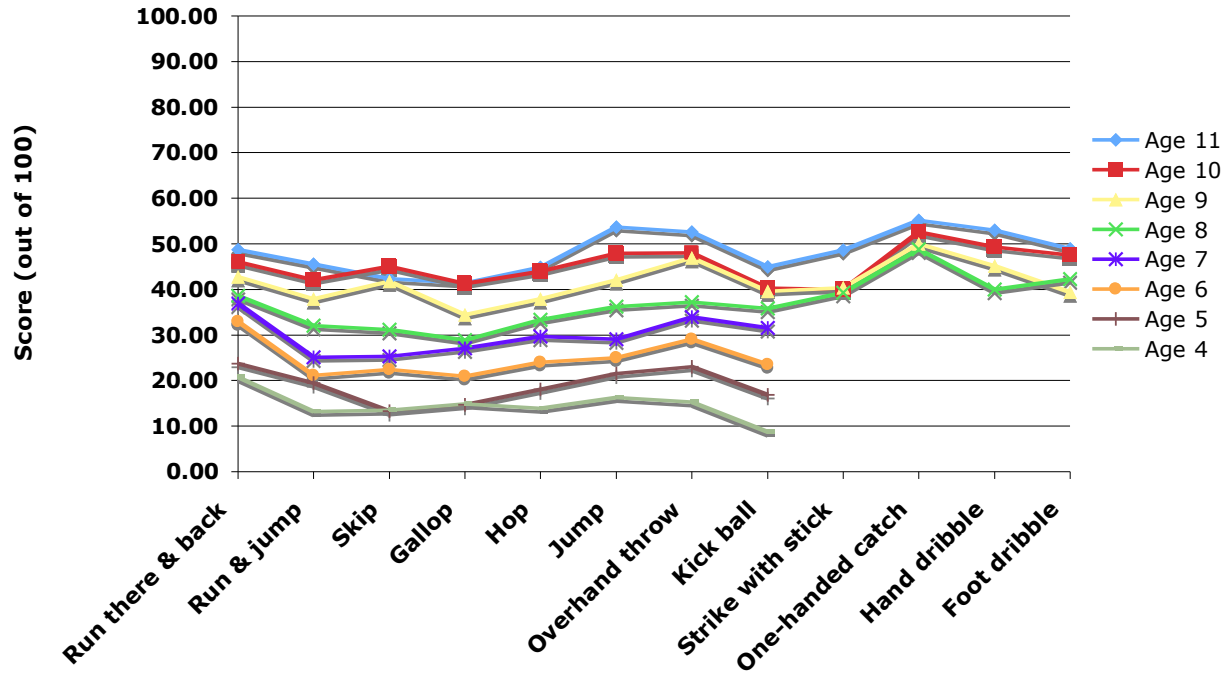


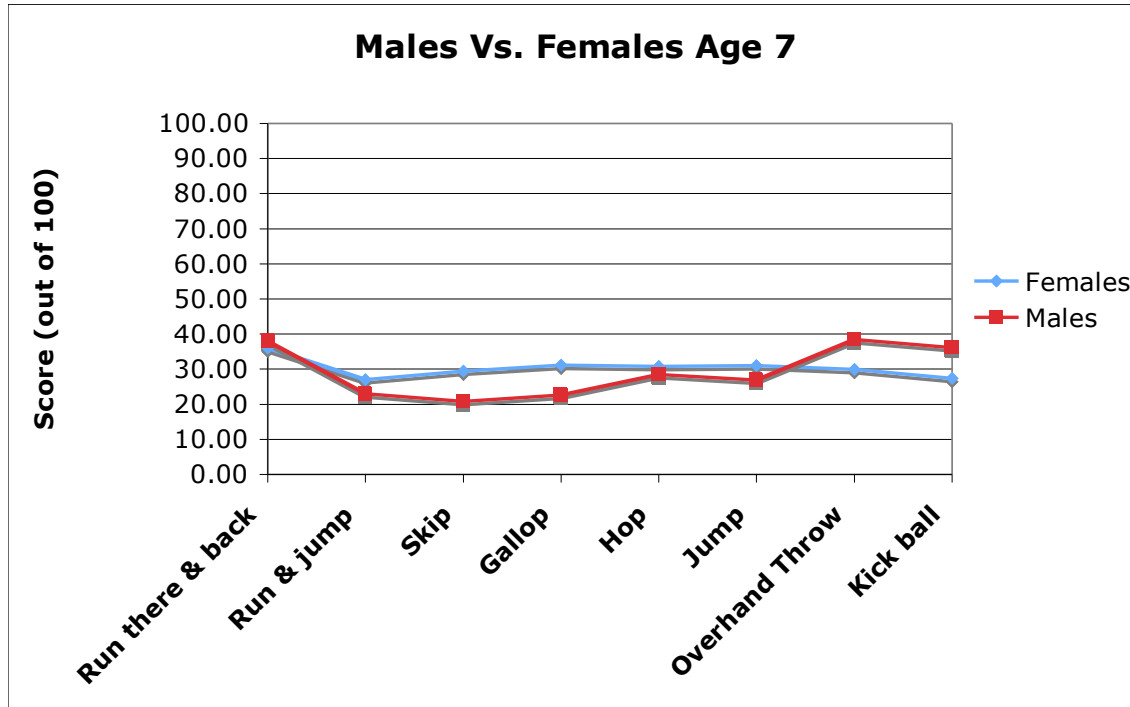
# Phase II: Sept 2015-May 2016

## Preliminary Results: KO vs Steeples

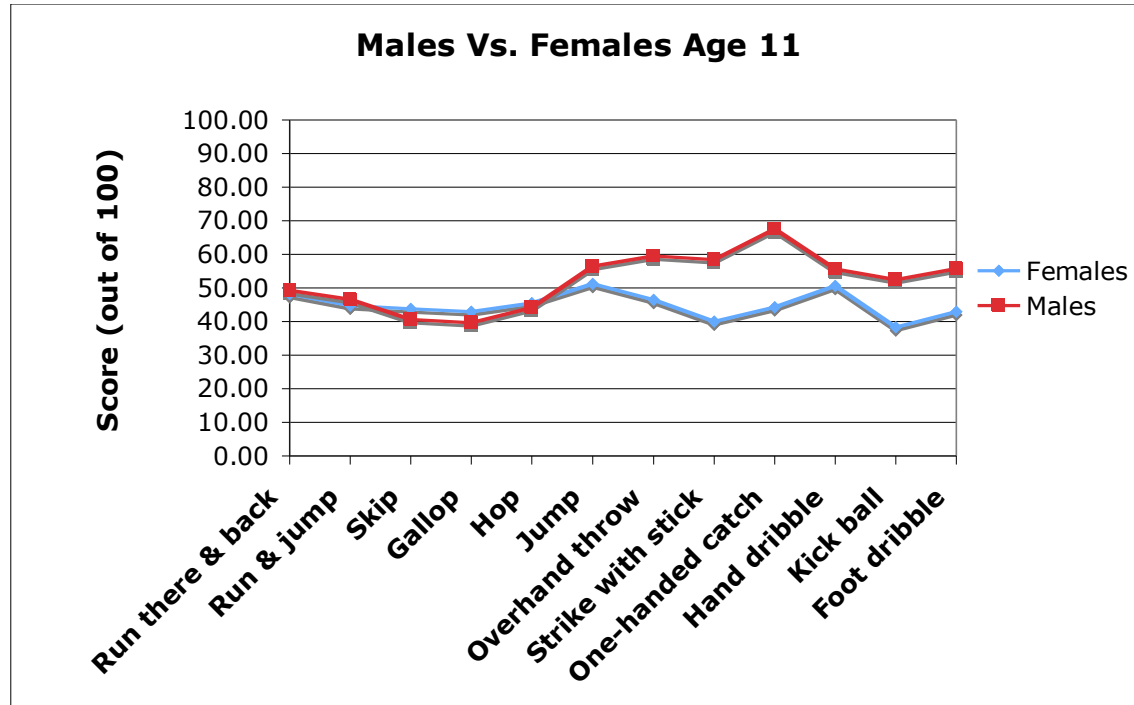


## Cranbrook Sept 2015





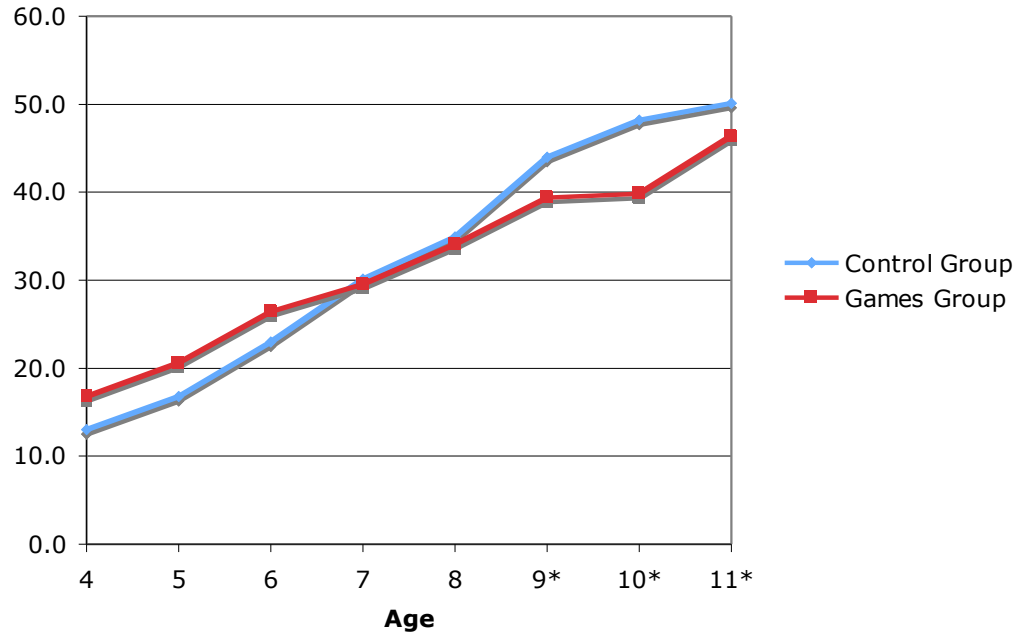
*Age 7- Significant difference ( $p < .05$ ) between males and females with skip and gallop (girls better) and throw and kick (boys better).*



Age 11- Significant difference ( $p < .05$ ) seen between males and females in the throw, strike with a stick, one-handed catch, kick and foot dribble (with males being better).



### Sept 2015 Control Group vs. Lunch-hour Games Group



\*significant difference  $p < .05$

## Games Session I: October 12-December 10, 2015

- 4 Schools were selected in the Cranbrook Area
- 8 weeks of 30 minutes PL Games sessions at the 4 schools
- Primary (Gr. 1-3): 2 x 30 min/week
- Intermediate (Gr. 4-6): 2x 30 min/week
- 16 sessions for each group

Lesson Plans

Student Leaders and Assistants



## Games Session II: January 18, - March 11, 2016









## In Summary....

Our lunch hour games program is benefiting not only children in our public elementary schools, teachers and administrators, but our college students, university students and high school students.





