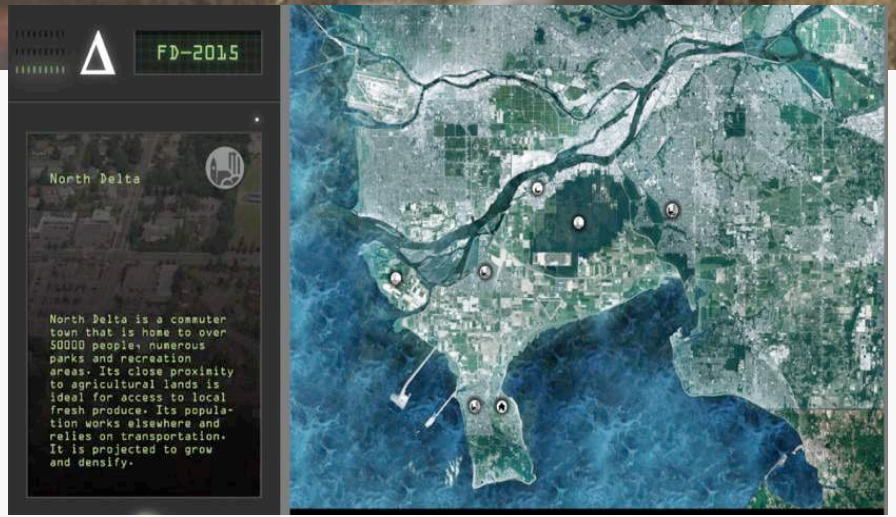
Future Delta 2.0:

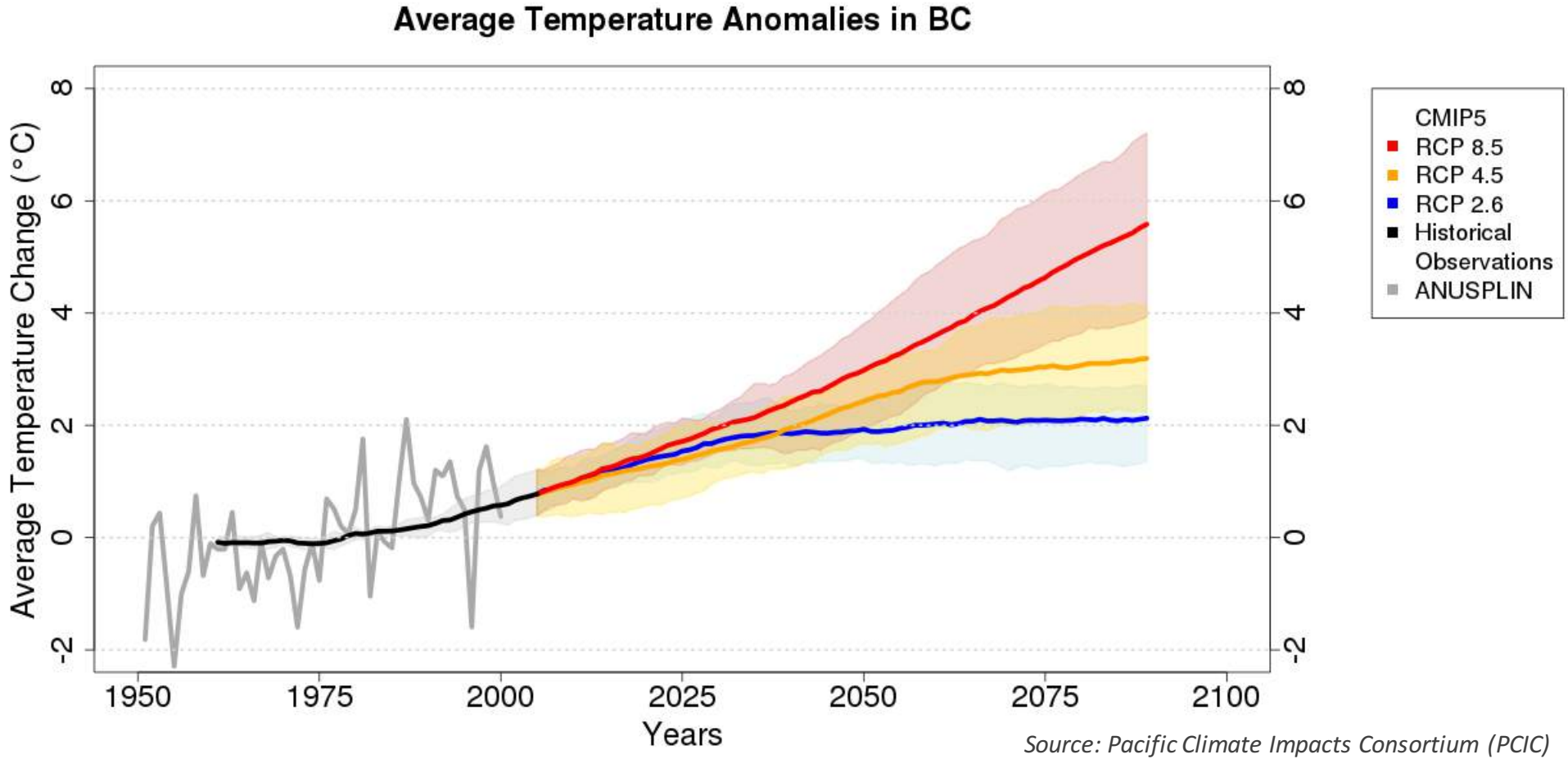
A place-based educational videogame for social mobilization on climate change



Alicia LaValle: Future Delta 2.0
Project Manager & Research Scientist

October 13th, 2016

Projected BC warming



Source: Pacific Climate Impacts Consortium (PCIC)

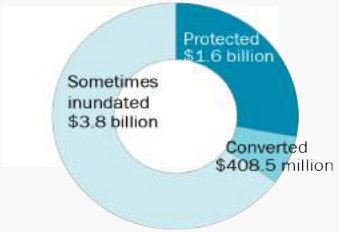

Average Temperature Anomalies in BC
Average Temperature Change (°C)
Years
1950
1975
2000
2025
2050
2075
2100
-2
0
2
4
6
8
CMIP5
RCP 8.5
RCP 4.5
RCP 2.6
Historical
Observations
ANUSPLIN
AM-SNB-01

1 Why a videogame?

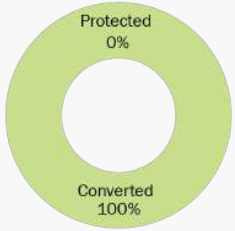
- Build awareness and capacity among the youth who will be most affected
- Influence behaviour and civic engagement
- Reach the disinterested: integrate the fun factor of games for social change
- Establish and validate a template for wider use of such games (such games are rarely tested)


Delta, BC
North Vancouver
Vancouver
New Westminster
North Delta
Tilbury industrial
Fraser River
Ladner
Westham Island
Boundary Bay
South
Delta
Strait of Georgia

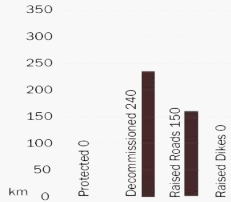
Build Up Scenario



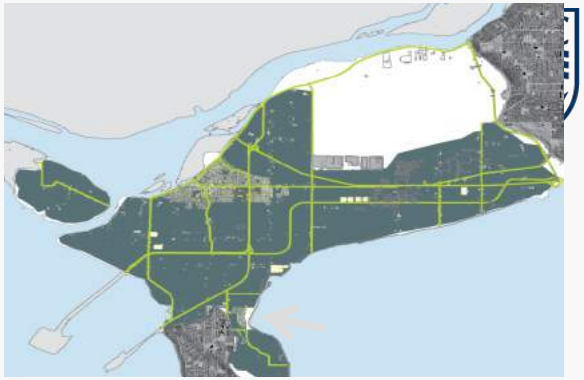
Value of Land & Buildings



Agricultural Land Area



Road & Dike Length

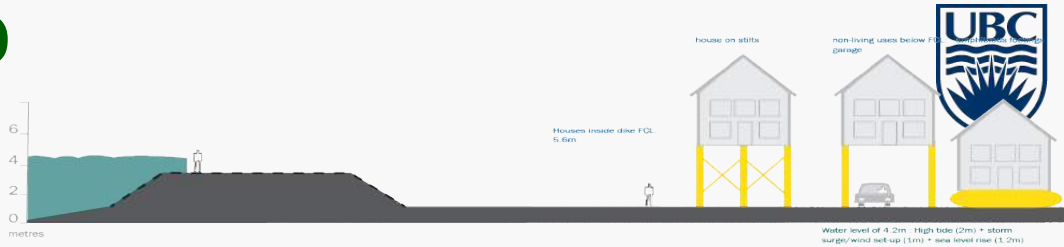


Ladner - Dike View

Build Up Scenario (hypothetical year 2100)

1.2 metres sea level rise

Build Up Scenario



Ladner - Dike View

Build Up Scenario (hypothetical year 2100)

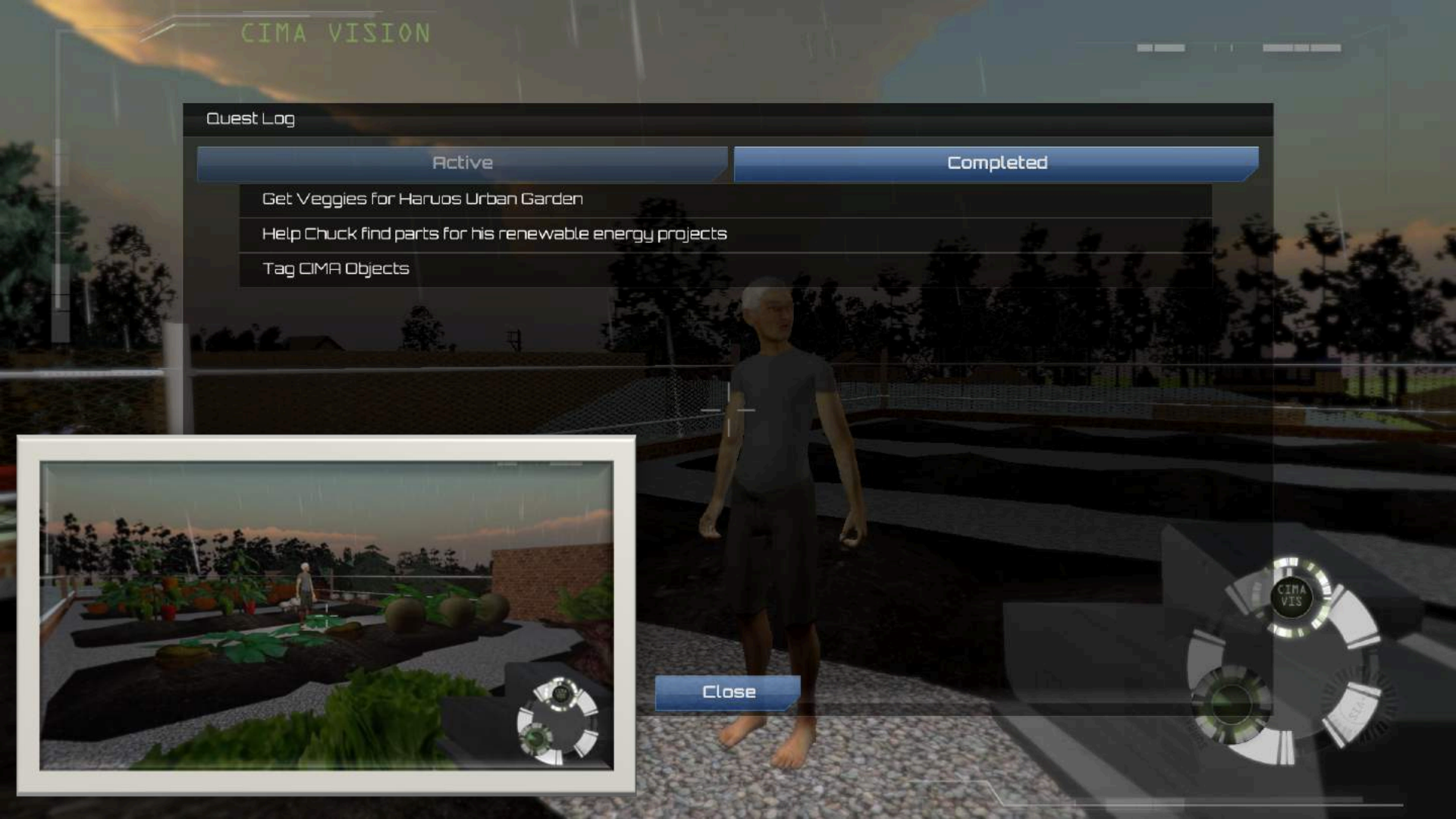
1.2 metres sea level rise

2. Design Rationale

Integrating Approaches from	Example
Climate change scenarios	**Time-travel** – visualizing & modifying player's own future
Climate change communications/psychology	**Emotional engagement** – player has vested interest in game outcomes
Landscape visualization theory	**Place attachment,** caring and identity – via realism in real places
Interactive arts	**Social interaction** and dialogue encourages sustainable behaviours
Experiential/Inquiry learning	**Different pathways** through the narrative – outcomes based on user choices
Commercial videogames	**Fun** – interactive engagement in various gameplay modes with rewards


CIMA DATABASE EDITOR
C
I
M
A
BICYCLE
The bicycle, invented in the 19th century, is a convenient way to convert human energy into movement. In tightly packed urban centers, bicycles can avoid the gridlock and quickly carry you to your destination.
CLOSE
SAVE


It wasn't cheap - but I think it will pay off. This is energy security, baby! Listen, if you can help me with a problem, maybe I can help you later.
What can I help you with Chuck?
No, I'm not interested in energy


CIMA VISION
Quest Log
Active
Completed
Get Veggies for Haruos Urban Garden
Help Chuck find parts for his renewable energy projects
Tag CIMA Objects
Close
CIMA VIS

CO-DESIGN PROCESS:

- 5 Expert Advisors from Government, NGO's and Gaming Industry
- 7 teachers from 4 schools
- 30 student volunteers

FUTURE DELTA 2.0

Meta-Narrative

END STATE: 2100

BUSINESS AS USUAL
(Entry to the Game)

ACT 1: 2075
PLAYER: Elderly Man/Woman
CC EVENT: Sea Level Rise

ACT 1: 2050
PLAYER: Professional (Scientist/Inventor)
CC EVENT: Drought/Heat Wave

ACT 2: 2020
PLAYER: University Student/Activist
CC EVENT: Winter Rains/Floods

ACT 1: 2015
PLAYER: High School Student
CC EVENT: The "Black-Out"

(Game PLAY Starts Here)

ADAPT

ADAPT & MITIGATE


Intro video….

3 Basic Overview: How the game works

Act 1: North Delta (street view) with the User Interface

ACT 1: 2015

Open ‘sandbox’ exploring and Tagging everyday objects related to climate change using CIMA vision

Location: North Delta


CARBON VISION
Act 2: 2025
Industrial area – stealth theme, with carbon vision
Location: Tilbury

Act 3: 2035 – community dialogue to select future scenario option. Here, floating homes with renewable energy shows climate change adaptation & mitigation


Birds Eye View

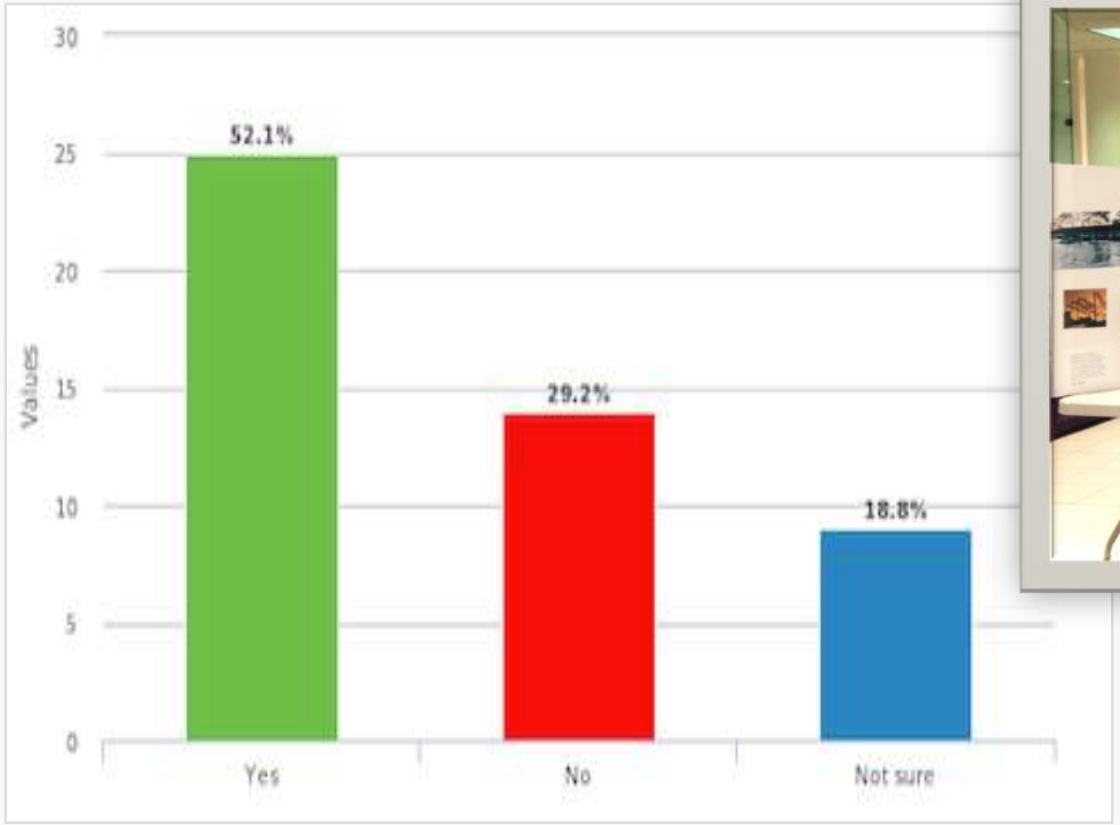
4. Game Evaluation and Results

TESTING IN SCHOOLS:

150 Grade 10 students in 5 classes (3 social science, 2 science)

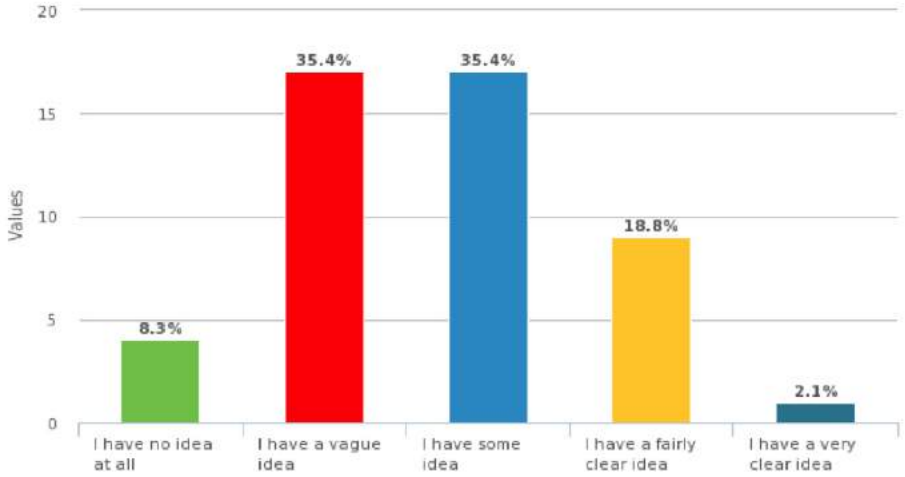
- 2 teachers from 2 schools
- Delivered over 2-3 weeks (3-5 class sessions)

Post Survey Response: “Has playing the video game made you think differently about climate change?”

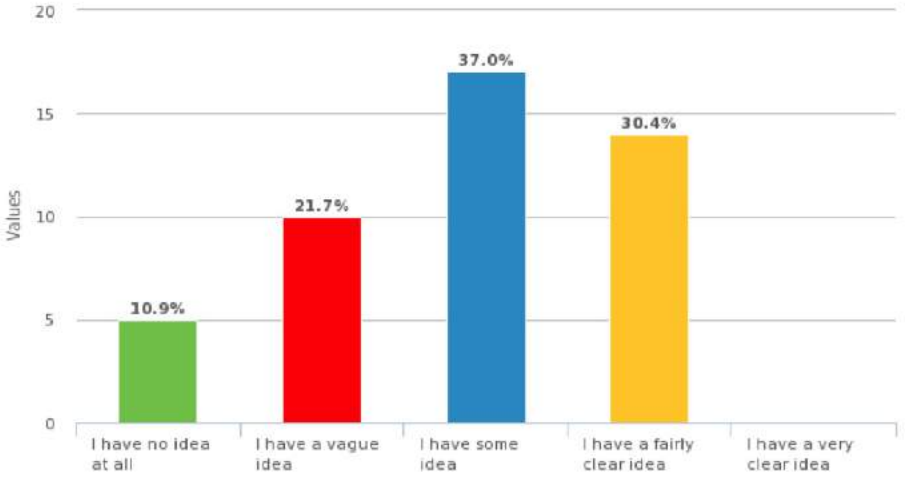


“How knowledgeable do you feel about the effects that climate change may have in your local area?”

PRE



POST



4. Game Evaluation Results – Delta Secondary (Ladner BC)

of the 78 students at Delta Secondary 25 made statements that associated fun and learning in some way.

FUN & LEARNING

PERCEPTIONS OF FUN & LEARNING MATRIX. Total # of responses = 32		
	Fun	No Fun
Learning = Yes	22	3
Learning = No	3	3
Learning = Unclear	1	0

- 32 responses total from 25 individuals students commenting within 5 post game play survey mechanisms:

(a) Tutorial (b) Act 1, (c) Act 2, (d) Act 3 and (e) Post-Game Evaluation Survey

4. Game Evaluation Results – Delta Secondary (Ladner BC)

FUN & LEARNING

"Gaining knowledge points. I felt like I was progressing"

"fun and better than regular textbook work"

"I learn better by exploring/experiencing"

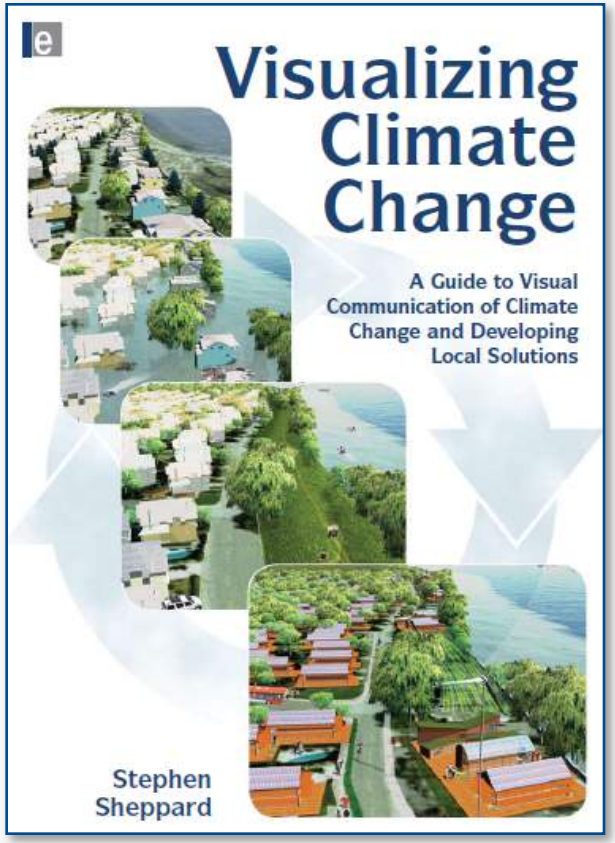
"Its more fun than a regular class, and also can take knowledge during the game"

Resources that are available to date:

Future Delta

futuredelta.ca

Find us on



Visualizing Climate Change textbook on science basics, local solutions, visual catalogue of climate change, guidance on media, etc.

visualizingclimatechange.ca