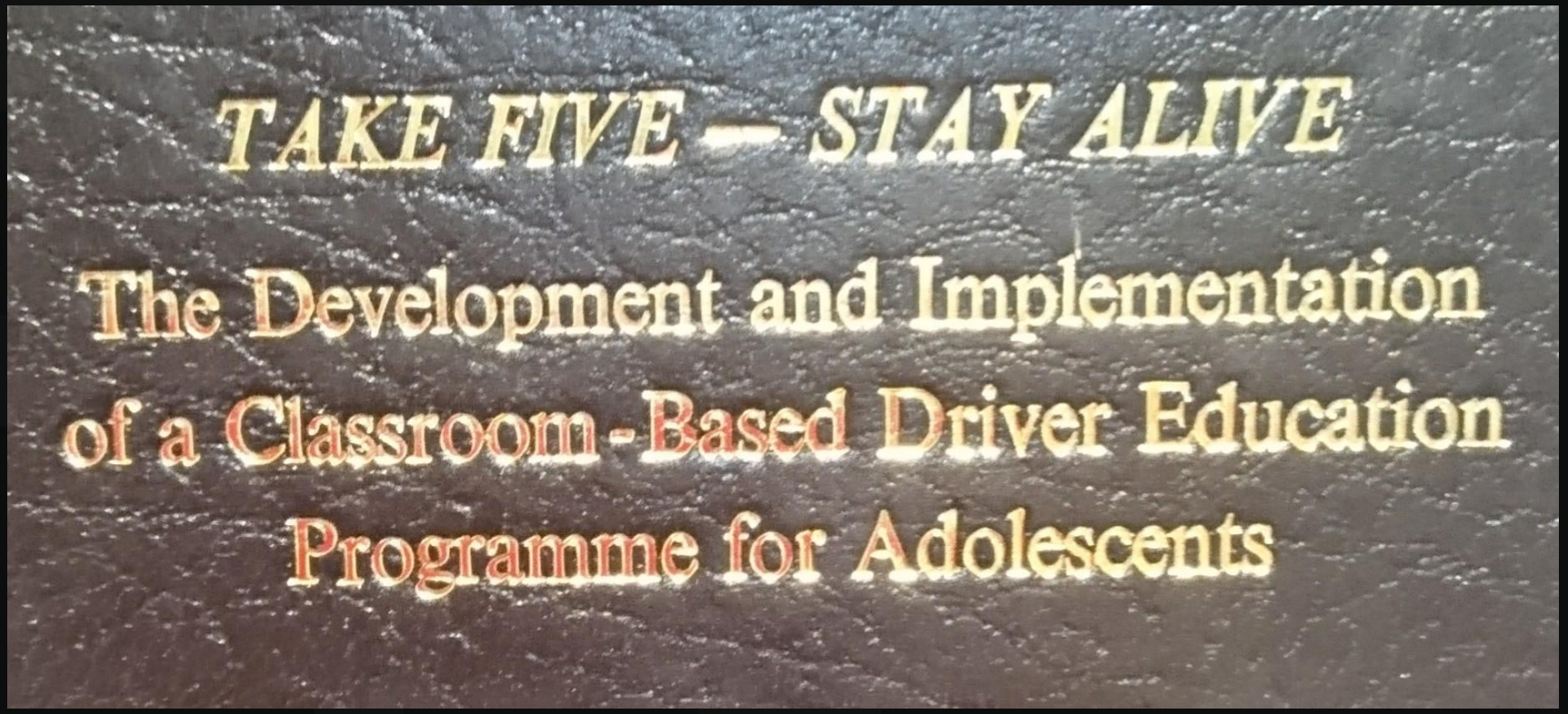
A Journey towards Vision Zero

Take Five Stay Alive

Neil Bruce Ph.D

Safety is in all our hands



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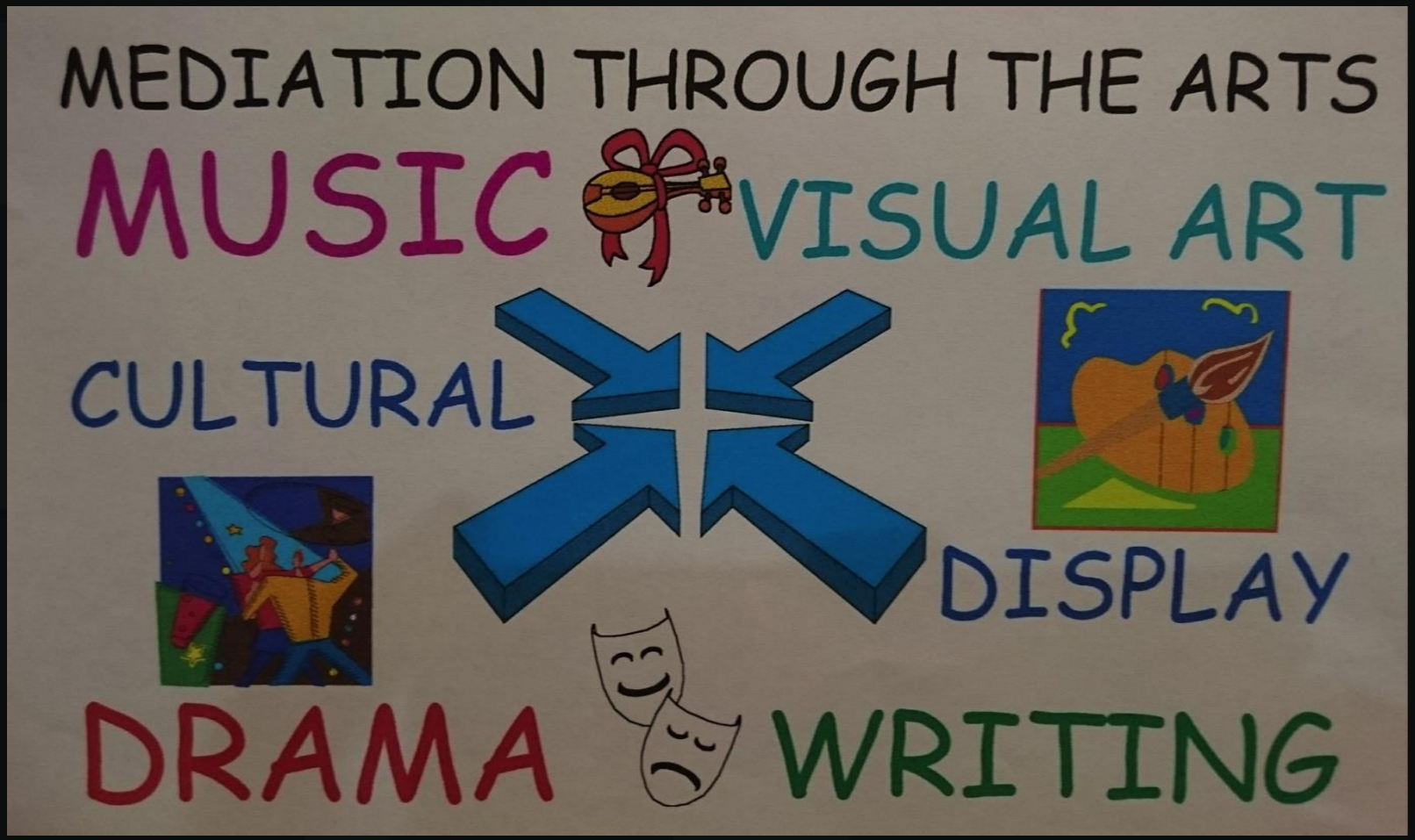

Take Five Stay Alive

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"TAKE FIVE STAY ALIVE"

14 human factors simplified into 5 risk reduction guidelines

Too fast for conditions	36.3%	1 Speed		
Alcohol or drugs	32.3%	2 Alcohol		
Failed to keep left	16.6%	3 Concentration.	4 Communication.	5 Courtesy.
Inexperienced or incompetent	14.2%	3 Concentration		
Pedestrian factors	11.6%	3 Concentration	4 Communication.	
Failed to give way / stop	9.8%	3 Concentration	4 Communication.	5 Courtesy.
Inattention / diverted	8.6%	3 Concentration		
Tired or fatigued	8.0%	3 Concentration	4 Communication.	

Dedication to victims of Road Trauma

Ngaromate Williams
died age 15 in 1993.

Kate Shapland
Hit on school
crossing, 1995
Age 12.

Sonya Daly
Hit as pedestrian
age 19 in 1996.
Died 2 years later.

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Easter 1993

15yr motorcyclist + 15yr pillion

Ignored road rules + graveled road

Opposing van + family


BIKE DEATH: the badly damaged bike ridden by the dead man,

Motorcyclist dies

TRAGEDY

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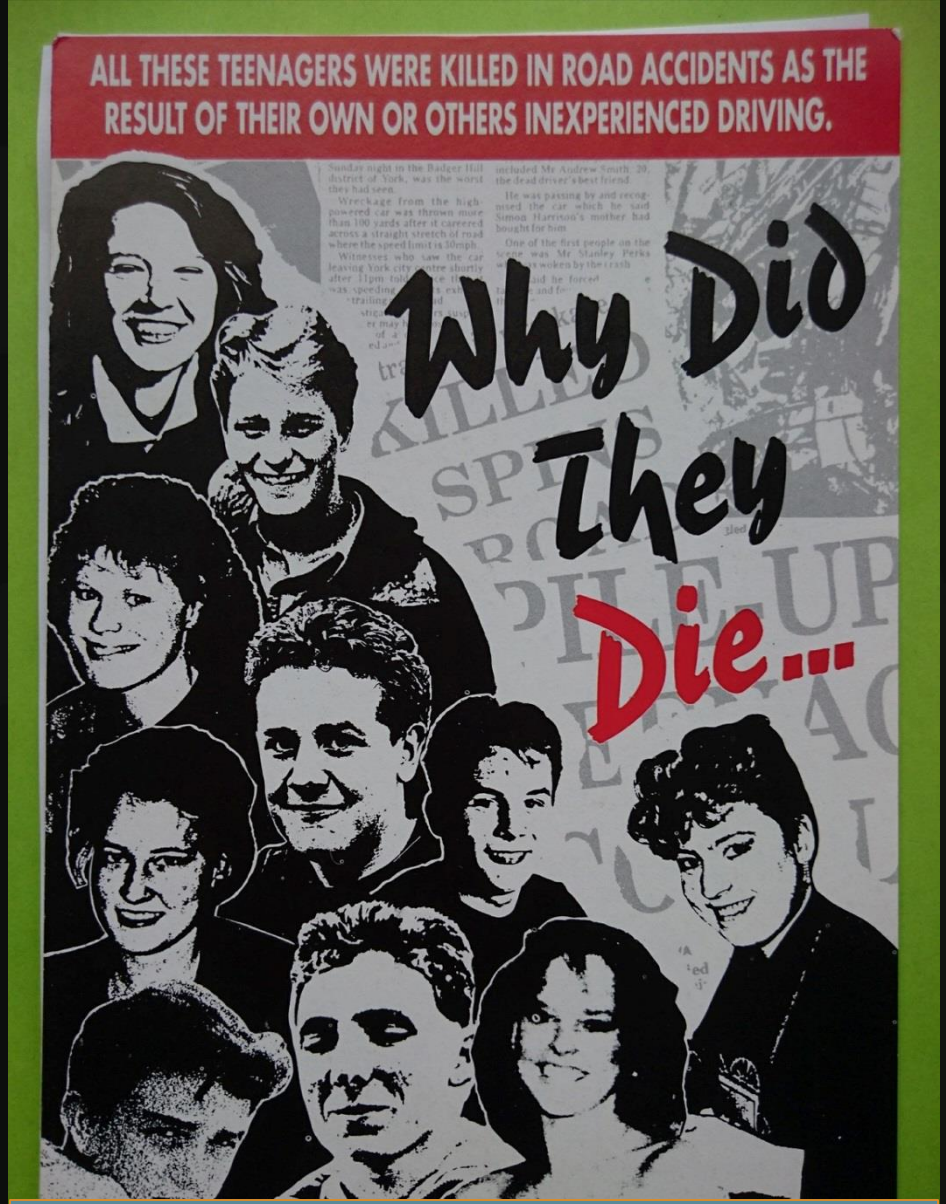

English Teen Road Safety Resource

HUMAN FACTORS
85-95%

Explore
the gap in

EDUCATION
EDUCATION
EDUCATION
via

(the classroom)

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Adolescents: Status Quo:

Consistent over representation

Road Crashes leading cause of death in Canada

13% drivers are 15 -19yo

20% death / injury

Road Crashes

Similar in NZ

13% drivers 15-25yo

24% death / injury

Two guiding principles kept me honest

Those who are convinced **against their will** are of the same opinion still. *Benjamin Franklin*

Experience

"REALITY ACTIVATION"

Wisdom

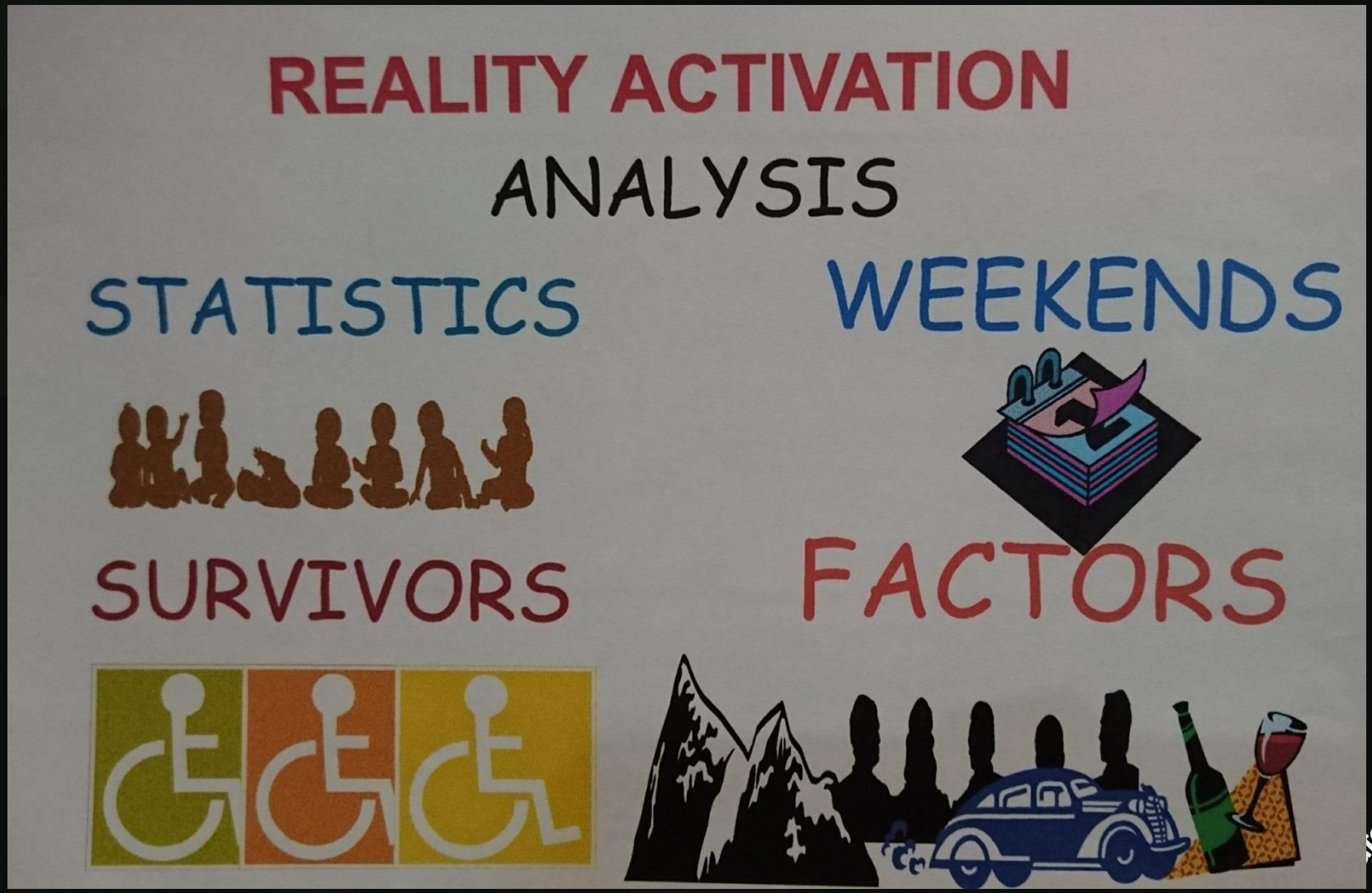
Reflection is the noblest

Imitation is the easiest

Experience is the bitterest

Confucius

Reality Activation: via Cognitive learning theory



Research overview

1st Year 10 weeks

A
Co-ed

B
Boys

2nd Year 5 weeks

A
Co-ed

B
Boys

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Methodology parameters

Action Research

theory / practice / change

researched in situ

Qualitative Data

Narratives from daily researcher and student diaries

Assessment

both Summative

Formative to

Highlight risk

Quantitative Data

For baseline levels

Likert scale

Agree / ST agree / disagree

Methodology: Cyclical Action Research

Identify Problem

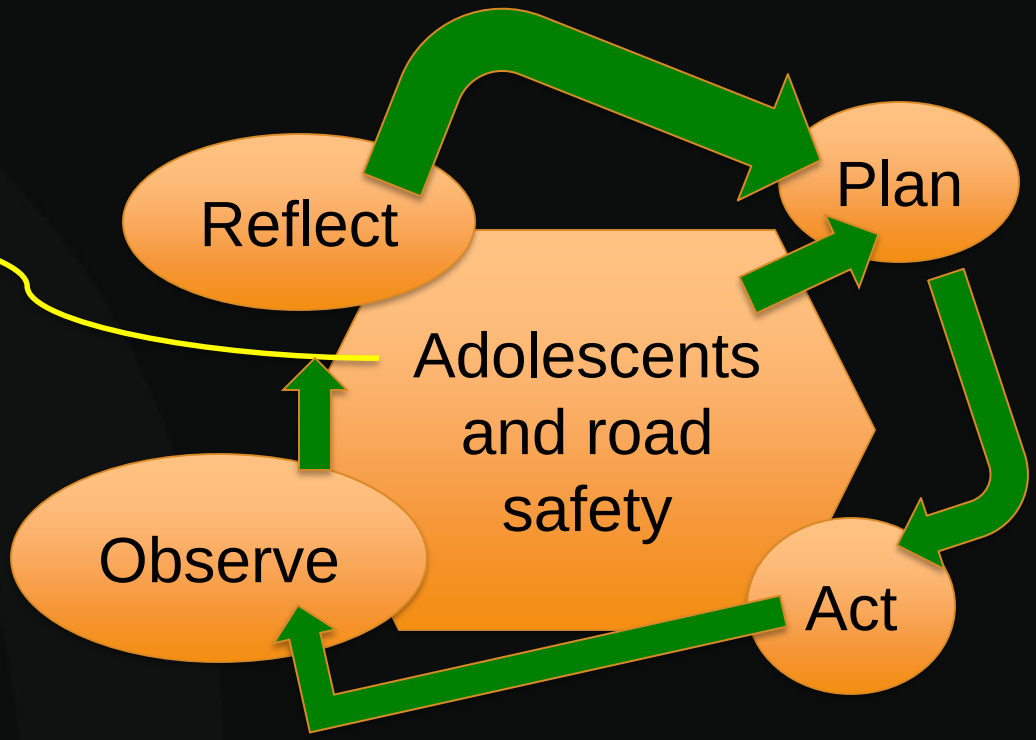
Plan TAKEFIVE

Implement as Action

Observe using data

Self- reflect

Modify/Adjust Plan



1996a Cycle1

1996b Cycle 2

1997 Cycle 3

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Gaps / Research Questions

Summary Themes for Driver Education (DE)

1. Adolescents Skills Knowledge and Attitudes
2. Important Adolescent features for DE
3. Learning theories / Teaching Methods to Assist DE
4. Important Teacher attributes for DE
5. Effectiveness factors for DE

Research Question 1

What skills / knowledge are necessary for adolescents to be safe?

Skills

Analyse

Learn new terms

Construct new meanings

Knowledge

Vocabulary RS terms

Understand Crash Factors

Rights / Responsibilities

Risks / Safety Options

Research Question 1

What attitudes are necessary for adolescents to be safe?

Attitudes

Egocentric ⟷ Sociocentric

Risk Prone

e.g. those driving, no licence
School A
= 46.15% of the sample

Risk Averse

e.g. Fewer driving unlicenced
School B
= 5.8% of the sample

Research Question 2

What adolescent features are important for a DE program?

BASE LINE DATA showed School Cultural differences

School A Decile 4/10	Drive no Lic 5/10, 7/16 46.15%	Learning: Showed more difficulties More resistant	Other features: More egocentric Errors of Attribution External Locus Control
School B Decile 8/10	Drive no Lic. 1/17 5.8%	Learning: More independent More affable	Other Features: More Socio-centric Internal Locus Control

Research Question 2

What adolescent features are important for a DE program?

Teaching perspective

In classroom

Learning preferences

Visual elements

Less confident

group focus

Discussion poor

Abstract Conceptual

Concrete Operational

Increased confidence

required more learning support

High levels of absenteeism

Work experience

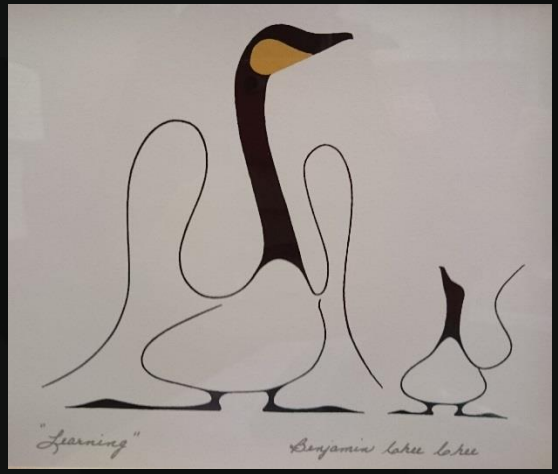
Sport

Sickness

Research Question 3a

What **learning theories** assisted development of DE?

Learning Theories



1. Social Learning theory
2. Behavioural learning theory
3. Cognitive theory
4. Constructivist theory
5. Situated Learning theory

Review Activities
Accept or reject ideas
Clarify learning problems
Consider best solutions
Explore possible options

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Research Question 3b

What **teaching methods** assisted development of DE?

Teaching Methods

Group work,
visual diagrams,
3D model,
traditional sessions,
role playing, haiku,
odel road making
course manual

Positive outcomes

Reality Activation activities

Vocabulary acquisition

Group work

Ongoing Challenge

Errors Attribution / Optimism Bias

Research Question 4

What teacher attributes are important in the delivery of DE in a classroom?

Teacher Researcher Roles

Manager of content / resources

Personality to encourage / engage

Pedagogical skills for “learning”

Researcher as a critically reflective practitioner

Research Question 4

What teacher attributes are important in the delivery of DE in a classroom?

In the classroom

Activating crash patterns

Clarifying meaning / understanding

Checking for errors of attribution

Adjust teacher expectations

Selecting survivor visitors

Adapting tasks for students

Defining behavioral expectations

Research Question 5

What factors contributed to the effectiveness of the program ?

Understanding Human Factors

Reality Activation Activities

Increased student awareness of road trauma cause and effect (Hows, Whys).

- Crash Analyses
- Victim interviews
- Victim articles / reports
- Experienced driver interviews
- 3D model of driving task
- T5SA model of risk reduction
- Haiku Poetry.

Research Question 5

What factors contributed to the effectiveness of the program?

Feedback for students

3D Model of driving task visualized abstractions

- *"got my licence* – still *learned new things"*

Diary entries great insights into student learning

- "Interviews with survivors were real…
- you couldn't shrug thoughts off"

Most understood the need for more caution

- not all were convinced of their risk

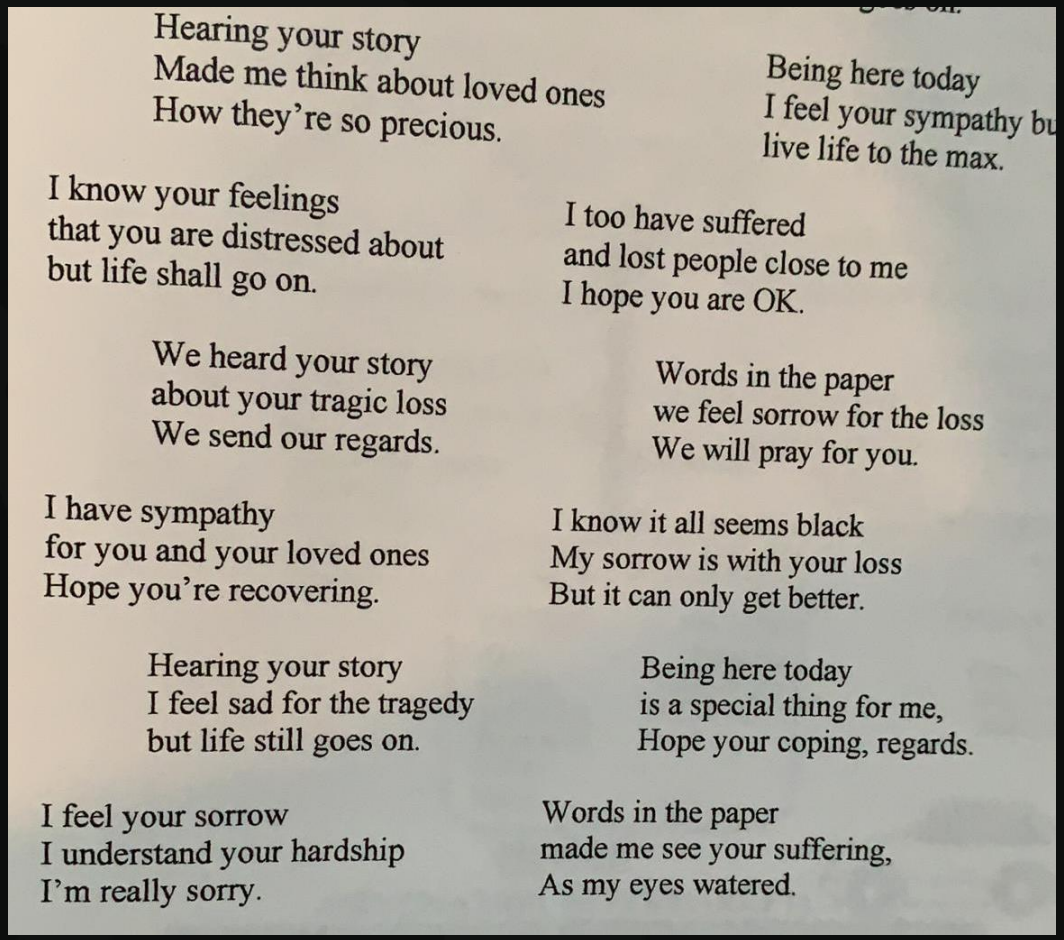
DE content not necessarily of value to student

- needed teacher skills / knowledge

Course helped me find *"better ways of thinking"*

Research Implications

Towards Innovation



Hearing your story
Made me think about loved ones
How they're so precious.

I know your feelings
that you are distressed about
but life shall go on.

We heard your story
about your tragic loss
We send our regards.

I have sympathy
for you and your loved ones
Hope you're recovering.

Hearing your story
I feel sad for the tragedy
but life still goes on.

I feel your sorrow
I understand your hardship
I'm really sorry.

Being here today
I feel your sympathy bu
live life to the max.

I too have suffered
and lost people close to me
I hope you are OK.

Words in the paper
we feel sorrow for the loss
We will pray for you.

I know it all seems black
My sorrow is with your loss
But it can only get better.

Being here today
is a special thing for me,
Hope your coping, regards.

Words in the paper
made me see your suffering,
As my eyes watered.

Research Implications

Towards Innovation

Ideas from project	**for possible Development?**
3D model of driving task	= Duplication via 3D print?
If DWOL is a reality for many	= Discuss “Rite of Passage” ?
“DE ” appropriate term?	= “Traffic Safety Education”?
“Language arts” eg Haiku	= Can “perform” learning.

Research Discussion

Effectiveness (continued)

Ideas from project **for possible development?**

So many students get no D E = encourage social science / lang. arts?

“Vision Zero” motto? “only best for all” = Song “we are one together”

Vision Zero, married to a “team” logic? = all driving for “Team Zero”

T5SA “model of risk reduction” = positive potential road safety

"TAKE FIVE STAY ALIVE?"

"better ways of thinking" and consider human factors thus….

Addictive substances (Alcohol / Drugs / Medication)

Speed factors can increase risk

Concentration (on Rules / driving task / curing bad habits)

Communication (clear signals / patience / friendly gestures)

Courtesy (can reinforce a sociocentric attitude becoming like a glue to make any journey pleasant and safe).

Towards Vision Zero

2 additional summary thoughts:

an **Aleut** phrase

Before I can teach you,
I must know you first

Those convinced against their will are of the same opinion still.

Safety is in all our hands

Towards Vision Zero

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Original Song

We are one together, together one,
We are one together, together one,
Reach out for a dream,
With love and life your theme,
Healing hurt that's been,
Together we're a team
We are one together, together one (x 2)

Safety is in all our hands