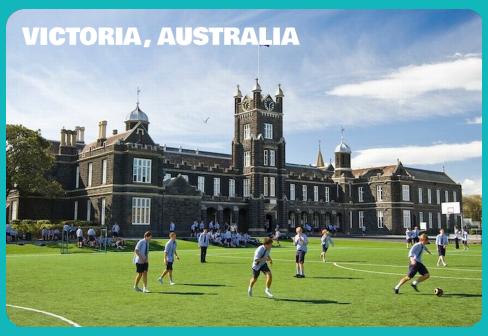
THE LEARNING BLUEPRINT
STUDENT IMPACT STUDY



ABSTRACT || From 2018-2020, over 1,300 Year 9 students from dozens of schools across Victoria, Australia completed The Learning Blueprint.

Before and after completing the program, students were asked to respond to a series of statements pertaining to their beliefs and attitudes about learning. The post-program results were outstanding, as students demonstrated a statistically significant growth across a range of important learning-attitudes. Moreover, the one school willing to share pre-and-post term grade data reported an average GPA growth from 3.02 to 3.19 among their ~170 participating students.

ABOUT THE PROGRAM || Multiple studies have shown that student awareness of the learning process is dreadfully low – especially among low SES students. Even at top schools, many students view learning as a 'black-box' process, leaving them with little-or-no plan for managing their own academic performance.

The Learning Blueprint cracks open this black-box and equips students with a powerful cognitive frame-work on which they can build a personalized approach to learning and self-management. Developed by leading cognitive neuroscientist Dr. Jared Cooney Horvath, this metacognition program has proven highly effective at deepening student engagement and supporting academic success.

Average Student Evaluation of 'Learning Attitude' Statements *

My beliefs influence how I think and learn.

17% — EFFECT SIZE 0.37

Making errors/mistakes can improve my thinking and learning.

10% — EFFECT SIZE 0.42

Having clear goals is important to successful learning.

13% — EFFECT SIZE 0.35

When I multitask, this impairs my learning and memory.

30% — EFFECT SIZE 0.57

Memory is not random – it has reliable rules that I can exploit.

19% — EFFECT SIZE 0.45

It is important for me to assess my own performance.

10% — EFFECT SIZE 0.33

* These ratings employed a 1-10 scale (1 = Totally Disagree / 10 = Totally Agree) and reflect pre-and-post live session data

See the following pages for a full statistical analysis of the student pre-and-post assessment results.

The Learning Blueprint | Student Impact Study

Victoria, Australia

PARTICIPANTS

Participants include Year 9 students from multiple secondary schools located across Victoria, Australia. In 2018, a total of 228 students from 5 different schools participated in a live version of the program. Of these, 30 students were eliminated from further analysis (21 for not completing the program and a further 9 for not completing both pre-and-post assessment). In 2019, a total of 556 students from 9 different schools participated in a live version of the program. Of these, 36 students were eliminated from further analysis (33 for not completing the program and a further 3 for not completing both pre-and-post assessment). All students from 2018 and 2019 were pooled to establish 'Live Session' data.

In 2020, a total of 530 students from 11 different schools participated in a digital version of the program. Of these, 17 students were eliminated from further analysis (all 17 for not completing the program).

Between the years 2018-2020, 74 Year 9 Students from 17 different schools completed both pre-and-post assessment without participating in the program. These individuals served as the control group.

INSTRUMENT/PROCEDURE

In addition to demographic data, the pre-and-post assessment included 16 learning-attitude statement rankings, 4 multiple-choice content questions, and 4 open-ended content questions. The attitude statement rankings employed a 1-10 scale (1=Totally Disagree / 10=Totally Agree). The open-ended questions were ranked for 'depth' according to a 3-point scale (1=shallow / 3=deep). Depth was assessed by two independent raters and was a pooling of key vocabulary score (0=no relevant vocabulary words present / 1=one or more relevant vocabulary words present) as well as general depth and consideration of response (1=no consideration beyond what was learned during the program / 2=employed at least one phrase or concept that extended beyond what was learned during the program).

Open-ended questions were averaged together to determine a final 'depth' score. Responses to multiple-choice questions were pooled to determine a final 'percent correct' score.

The assessments were delivered online via the ISLearn learning management system digital platform. Students were asked to complete this assessment two times: one week prior to commencing the program and one week following completion. The average duration between assessment completion was 10 weeks.

ANALYSIS NOTES

Because each question and ranking statement was meant to be assessed independently (rather than coalesce around a more general cognitive factor), repeated measure t-tests were used to determine any difference in pre-and-post assessment results. Bonferroni corrections for 36 t-tests adjusts the overall alpha to a significance value of 0.002. Effect sizes presented are Cohen's d (small effect ≤0.33; medium effect ≤0.67; large effect >0.67).

ASSESSMENT RESULTS

LIVE SESSION DATA								
	PRE		POST					
	M	*SD*	*M*	*SD*	*df*	*t*	*p*	*d*
My beliefs influence how I think and learn	6.425	2.698	7.481	2.398	717	9.948	<0.001	0.37 (med)
I can change my mind at any time	6.918	2.331	7.760	2.051	717	8.2755	<0.001	0.31 (sml)
Making errors/mistakes can improve my thinking and learning	7.669	1.933	8.539	1.596	717	11.158	<0.001	0.42 (med)
How I respond to errors/mistakes is under my control	7.575	1.971	8.373	1.658	717	9.963	<0.001	0.37 (med)
I can change and improve how I *do* things	7.982	1.757	8.510	1.535	717	7.4435	<0.001	0.28 (sml)

I can change and improve how I *think about* things	7.546	1.902	8.191	1.660	717	8.349	<0.001	0.31 (sml)
Any skill can be improved with practice	8.492	1.748	8.773	1.449	717	4.152	<0.001	0.15 (sml)
I am in charge of my own brain	7.869	2.133	8.485	1.697	717	7.012	<0.001	0.26 (sml)
Memory is not random – it has reliable rules I can exploit	6.421	2.312	7.593	2.015	717	12.079	<0.001	0.45 (med)
I am in charge of my own study techniques	8.018	1.833	8.536	1.596	717	6.986	<0.001	0.26 (sml)
My performance on exams is a result of my study techniques	6.896	2.379	7.515	2.156	717	6.540	<0.001	0.24 (sml)
When I multitask, this impairs my learning & memory	5.623	2.429	7.345	2.434	717	15.211	<0.001	0.57 (med)
Learning is my own responsibility	7.939	1.870	8.340	1.592	717	5.360	<0.001	0.20 (sml)
Having clear goals is important to successful learning	7.111	2.303	7.967	1.917	717	9.507	<0.001	0.35 (med)
Planning prior to an assignment can improve my performance	8.065	1.856	8.436	1.699	717	4.726	<0.001	0.18 (sml)
It is important I assess my own performance	7.430	1.965	8.110	1.779	717	8.838	<0.001	0.33 (sml)
OPEN ANSWER Qs (depth of response)	1.107	0.497	1.572	0.609	717	24.977	<0.001	0.93 (lrg)
MULTIPLE CHOICE Qs (percentage correct)	36.6	28.4	81.7	30.4	717	32.835	<0.001	1.23 (lrg)

DIGITAL SESSION DATA								
	PRE		POST					
	M	*SD*	*M*	*SD*	*df*	*t*	*p*	*D*
My beliefs influence how I think and learn	6.817	2.406	7.637	2.264	512	6.821	<0.001	0.30 (sml)
I can change my mind at any time	7.053	2.083	7.700	2.012	512	5.957	<0.001	0.26 (sml)
Making errors/mistakes can improve my thinking and learning	7.947	1.843	8.750	1.469	512	9.469	<0.001	0.42 (med)
How I respond to errors/mistakes is under my control	7.813	1.848	8.248	1.755	512	5.119	<0.001	0.23 (sml)
I can change and improve how I *do* things	8.197	1.656	8.645	1.401	512	5.876	<0.001	0.26 (sml)
I can change and improve how I *think about* things	7.828	1.775	8.370	1.545	512	6.342	<0.001	0.28 (sml)
Any skill can be improved with practice	8.663	1.549	8.883	1.424	512	2.804	0.005	0.12 (sml)
I am in charge of my own brain	7.819	2.231	8.294	1.788	512	4.686	<0.001	0.21 (sml)

Memory is not random – it has reliable rules I can exploit	6.531	2.125	7.719	1.853	512	11.636	<0.001	0.51 (med)
I am in charge of my own study techniques	8.076	1.750	8.637	1.381	512	7.233	<0.001	0.32 (sml)
My performance on exams is a result of my study techniques	6.721	2.318	7.433	2.079	512	6.348	<0.001	0.28 (sml)
When I multitask, this impairs my learning & memory	6.006	2.480	7.538	2.395	512	11.432	<0.001	0.50 (med)
Learning is my own responsibility	7.695	1.880	8.337	1.664	512	4.556	<0.001	0.20 (sml)
Having clear goals is important to successful learning	7.526	2.040	8.341	1.705	512	8.604	<0.001	0.38 (med)
Planning prior to an assignment can improve my performance	8.121	1.734	8.614	1.468	512	6.086	<0.001	0.27 (sml)
It is important I assess my own performance	7.632	1.829	8.312	1.647	512	8.467	<0.001	0.37 (med)
OPEN ANSWER Qs (depth of response)	1.096	.0544	1.644	0.590	512	21.449	<0.001	0.95 (lrg)
MULTIPLE CHOICE Qs (percentage correct)	33.0	22.5	68.1	26.7	512	25.250	<0.001	1.11 (lrg)

GRADE IMPACT

One participating school reported before-and-after grade data. The Learning Blueprint student metacognition program was delivered at this school during Term 1 of 2019. The school is unnamed here for legal privacy reasons.

PRE-PROGRAM GRADE RESULTS

Term Before Program (Term 2, 2018)

173 Students

Percentage of grades granted (total assigned grades = 1433)

A = 49% (532)

B = 34% (485)

C = 15% (324)

D = 2% (92)

Average GPA = 3.02

POST-PROGRAM GRADE RESULTS

Term After Program (Term 2, 2019)

168 Students

Percentage of grades granted (total assigned grades = 1393)

- A = 59% (653)
- B = 28% (414)
- C = 12% (259)
- D = 1% (67)

Average GPA= 3.19

CHANGE SUMMARY

Change in A’s = +10%

Change in B’s = -6%

Change in C’s = -3%

Change in D’s = -1%

Change in Average GPA = 0.17