

Lifelong Learning Mindsets and the Connection to Workplace Success

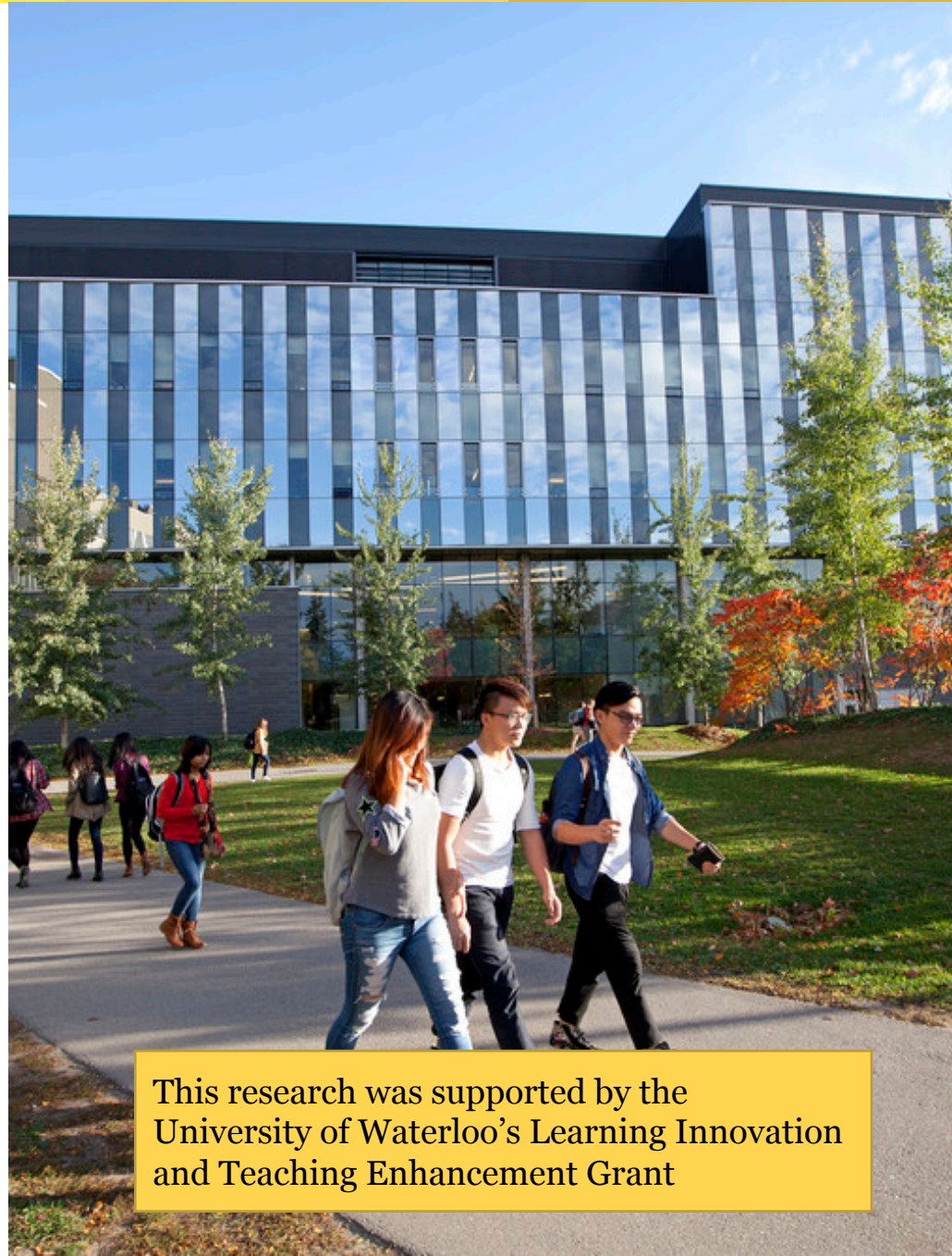
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This research was supported by the University of Waterloo's Learning Innovation and Teaching Enhancement Grant

Outline

- Introduction to Lifelong Learning and the research project
- Assessing Lifelong Learning Mindset (LLM)
 - Scale
 - Rubric
- Associations between LLM and Workplace Outcomes
 - Students
 - Alumni
- Implications and Next Steps

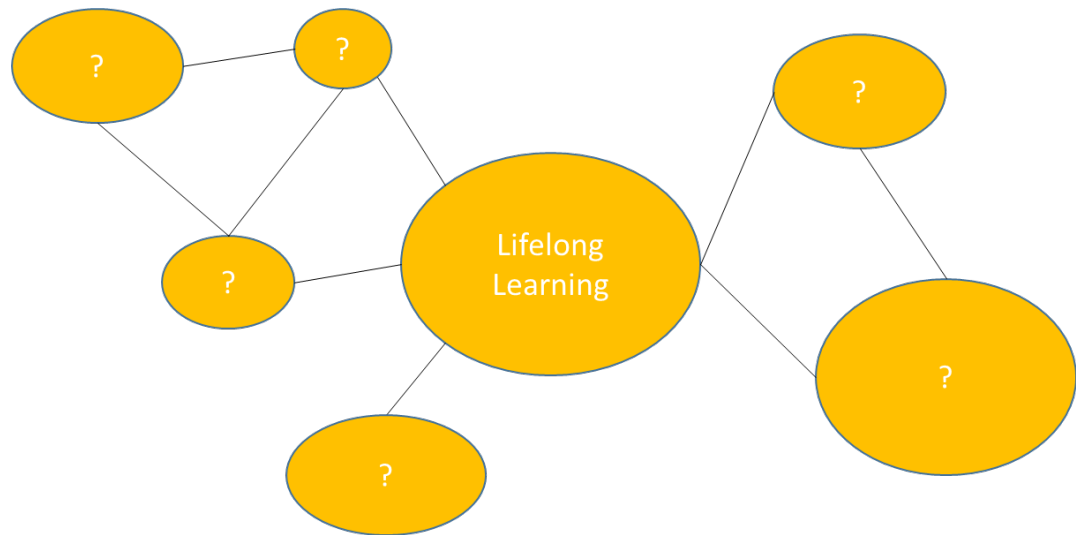
The Need for “*Lifelong Learners*”

The **pace of change** in the economy, technology and culture is accelerating, meaning the future of some industries is grim, Mr. Carney said. “It is entirely unrealistic to map out the decades ahead,” he said. “**Many of the jobs and even the industries of today will be gone tomorrow.**”

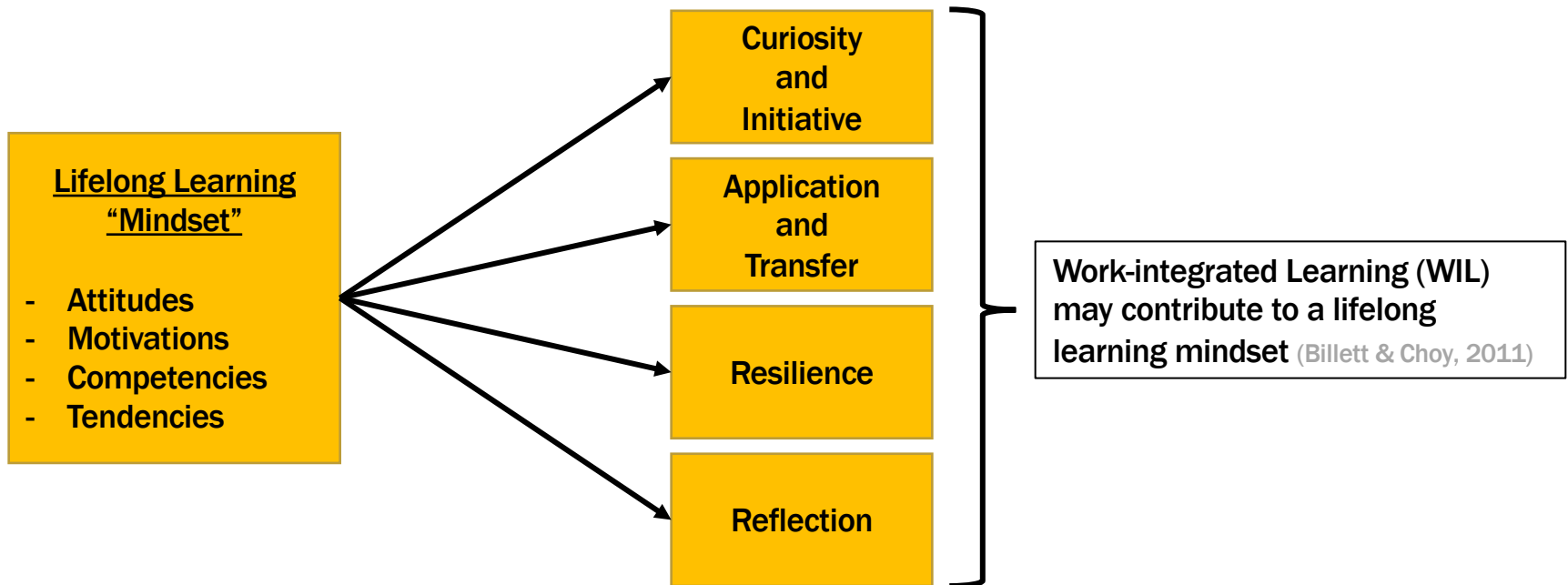
(M. Carney as cited by Quinn, 2016)

Defining Lifelong Learning

What words or phrases come to mind when you think of lifelong learning?



The Literature Suggests...



Phases of This Project

Phase 1 (2017)

Identifying Gap

Defining Project Goals

Sourcing Support

Developing a Self-report
Tool



Phase 2 (2018)

Literature Review

Expert Opinion

Initial Rubric Development

Pilot Testing

Initial Reporting



Phase 3 (2018-2019)

***Testing Inter-rater
Reliability***

Testing Predictive &
Concurrent Validity



LIFELONG LEARNING MINDSET

SCALE

Developing a LLM Measure*

- Initial 27-item inventory
- Participants:
 - UW Co-op ($n = 2,833$)
 - UW Non-co-op ($n = 1,761$)
 - CNAM co-op ($n = 172$)
- Examined scale properties
- Identified 10 items from 5 dimensions: Curiosity, Initiative, Transfer, Reflection and Resilience

**research sponsored by WACE IRC Grant*

LIFELONG LEARNING MINDSET

Rubric

An Opportunity

Self-reflection



Rubrics

Level Criteria	Excellent	Proficient	Adequate	Limited*	Insufficient/ Blank*
					No score is awarded because there is insufficient evidence of student performance based on the requirements of the assessment task.

Work-integrated Learning Programs

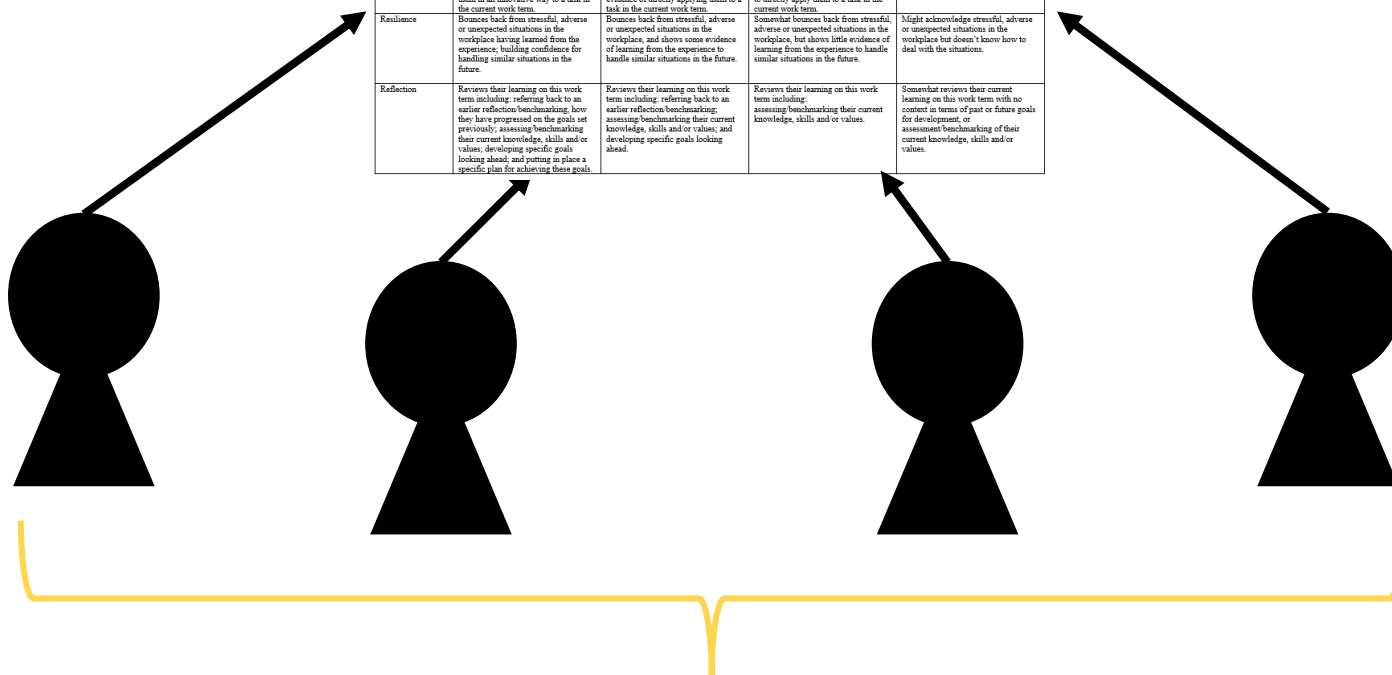
The Rubric

Disposition/ Skill	Level 4	Level 3	Level 2	Level 1
Curiosity	Continually looks beyond established processes/procedures (people, technology, organization) to make sense of, and complete assigned tasks, with intense interest in all aspects of their job and workplace.	Frequently looks beyond established processes/procedures (people, technology, organization) to make sense of, and complete assigned tasks, with regular interest in all aspects of their job and workplace.	Occasionally looks beyond established processes/procedures (people, technology, organization) to make sense of, and complete assigned tasks, with mild interest in some aspects of their job and workplace.	Satisfied with using established processes/procedures (people, technology, organization) to complete assigned tasks, with little interest in aspects of their job and workplace.
Taking Initiative	Identifies an opportunity to improve performance or a process: related to their job or in another area of the organization; and implements a plan of action.	Identifies an opportunity to improve performance or a process: related to their job or in another area of the organization; and looks to their supervisor or peer for direction.	Identifies an opportunity to improve performance or a process: related to their job or in another area of the organization.	Completes assigned work.
Transfer	References existing knowledge, skills and/or values from previous academic, work or life experiences, and applies them in an innovative way to a task in the current work term.	References existing knowledge, skills and/or values from previous academic, work or life experiences, and shows evidence of directly applying them to a task in the current work term.	References existing knowledge, skills and/or values from previous academic, work or life experiences, and attempts to directly apply them to a task in the current work term.	No reference to existing knowledge, skills and/or values from previous academic, work or life experiences.
Resilience	Bounces back from stressful, adverse or unexpected situations in the workplace having learned from the experience, building confidence for handling similar situations in the future.	Eventually bounces back from stressful, adverse or unexpected situations in the workplace, making an effort to persist or push through in resolving it.	Somewhat bounces back from stressful, adverse or unexpected situations in the workplace, makes minimal effort in dealing with it.	Might acknowledge stressful, adverse or unexpected situations in the workplace but doesn't know how to deal with the situations.
Reflection	Reviews their learning on this work term including: referring back to an earlier reflection/benchmarking, how they have progressed on the goals set previously; assessing/benchmarking their current knowledge, skills and/or values; developing specific goals looking ahead; and putting in place a specific plan for achieving these goals.	Reviews their learning on this work term including: referring back to an earlier reflection/benchmarking; assessing/benchmarking their current knowledge, skills and/or values; and developing specific goals looking ahead.	Reviews their learning on this work term including: assessing/benchmarking their current knowledge, skills and/or values.	Somewhat reviews their current learning on this work term with no context in terms of past or future goals for development, or assessment/benchmarking of their current knowledge, skills and/or values.



Methodology

Disposition/Skill	Level 4	Level 3	Level 2	Level 1
Curiosity	Clear evidence of a desire to learn about, explore and/or investigate many aspects of their work experience (e.g. organization, people, tasks).	Some evidence of a desire to learn about, explore and/or investigate some aspects of the work experience (e.g. organization, people, and tasks).	Minimal evidence of a desire to learn about, explore and/or investigate some aspects of the work experience (e.g. organization, people, and tasks).	No evidence of a desire to learn about, explore and/or investigate any aspect of the work experience (e.g. organization, people, tasks).
Taking Initiative	Identifies an opportunity to improve performance or a process: related to their job or in another area of the organization; and implements a plan of action.	Identifies an opportunity to improve performance or a process: related to their job or in another area of the organization; and looks to their supervisor or peer for direction.	Identifies an opportunity to improve performance or a process: related to their job or in another area of the organization.	Completes assigned work.
Transfer	References existing knowledge, skills and/or values from previous academic, work or life experiences; and applies them in an innovative way to a task in the current work term.	References existing knowledge, skills and/or values from previous academic, work or life experiences; and shows evidence of directly applying them to a task in the current work term.	References existing knowledge, skills and/or values from previous academic, work or life experiences; and attempts to directly apply them to a task in the current work term.	No reference to existing knowledge, skills and/or values from previous academic, work or life experiences.
Resilience	Bounces back from stressful, adverse or unexpected situations in the workplace having learned from the experience; building confidence for handling similar situations in the future.	Bounces back from stressful, adverse or unexpected situations in the workplace, and shows some evidence of learning from the experience to handle similar situations in the future.	Somewhat bounces back from stressful, adverse or unexpected situations in the workplace, but shows little evidence of learning from the experience to handle similar situations in the future.	Might acknowledge stressful, adverse or unexpected situations in the workplace but doesn't know how to deal with the situations.
Reflection	Reviews their learning on this work term including: referring back to an earlier reflection/benchmarking; how they have progressed on the goals set previously; assessing/benchmarking their current knowledge, skills and/or values; developing specific goals looking ahead; and putting in place a specific plan for achieving these goals.	Reviews their learning on this work term including: referring back to an earlier reflection/benchmarking; assessing/benchmarking their current knowledge, skills and/or values; and developing specific goals looking ahead.	Reviews their learning on this work term including: assessing/benchmarking their current knowledge, skills and/or values.	Somewhat reviews their current learning on this work term with no context in terms of past or future goals for development, or assessment/benchmarking of their current knowledge, skills and/or values.



Inter-rater reliability

Results

Table 1. Intraclass correlation based on four raters' assessments of students' ($n = 10$) written reflections using the Lifelong Learning Rubric

Dimension	Raters				ICC	95% CI		Reliability ^b
	A	B	C	D		LL	UL	
Curiosity	2.5	3.0	1.9	3.1	.65	.07	.90	Moderate
Initiative	2.2	2.4	3.6	2.7	.72	.26	.92	Good
Transfer	2.1	2.5	2.4	2.9	.69	.18	.91	Moderate
Resilience	2.7	2.8	2.9	3.2	.85	.61	.96	Good
Reflection ^a	2.7	3.1	2.8	2.0	.72	.18	.90	Moderate
Overall	2.4	2.8	2.7	2.8	.87	.65	.96	Good

Note: ^a three raters; ^b based on Koo and Li (2016)

ASSOCIATIONS BETWEEN LLM AND SELECT VARIABLES

Research Questions

- RQ 1: Are LLM scores associated with LLM rubric scores?
- RQ 2: Are LLM and LLM rubric scores associated with supervisor-rated performance?
- RQ 3: Are LLM scores associated with work/career success amongst alumni?
- RQ 4: Are LLM scores and work/career success associated with alumni giving?

RQ1 Methodology

1. **Students ($n = 32$) completed a 10-item LLM scale ($\alpha = .81$)**
2. **Trained rater to use LL rubric**
3. **Applied LLM rubric to two sets of reflections**
4. **Examined correlations**

LLM Example Items

- In my job, one of the main attractions for me is to learn new things. (Curiosity)
- If conditions aren't right for me at work, I generally manage to do something to change them. (Initiative)
- In trying to understand new ideas, I try to relate them to real life situations to which they might apply. (Transfer)
- I think I'm good at dealing with the pressures of learning new things at work. (Resilience)
- When setting work-related goals, I consider how things are going and how I can improve. (Reflection)

RQ1 Results

Assignment 1		Assignment 2	
Rubric Dimension	LLM	Rubric Dimension	LLM
Curiosity	.24	Curiosity	.14
Initiative	.43*	Initiative	.04
Transfer	.15	Transfer	.45**
Resilience	.14	Resilience	.52**
Reflection	.43*	Reflection	-.02

Notes. $n = 32$, * $p < .05$, ** $p < .01$

RQ2 Methodology

- Created a 4-item supervisor-rated performance scale ($\alpha = .90$)
- Supervisors assessed (1 = developing, 7 = superior):
 - Quantity of work
 - Quality of work
 - Problem solving
 - Entrepreneurial orientation
- Examined correlations

RQ2 Results

	Supervisor-Rated Performance
<i>Rubric</i>	
Curiosity	-.08
Initiative	.19
Transfer	-.04
Resilience	-.14
Reflection	.01
<i>Self-report</i>	
LLM	.30*

Notes. $n = 55$ to 62 , * $p < .05$

RQ3 and RQ4 Methodology

- **Surveyed alumni ($n = 148$) about:**
 - Lifelong learning mindset
 - Career success
 - Work self-efficacy
 - Promotions
 - Job satisfaction
 - Work engagement
 - Alumni engagement
 - e.g., previous financial giving behaviour, intention to give

RQ3 Results

Aspects of Success	LLM self-report
1. Work self-efficacy	.47***
2. Number of promotions	.27***
3. Job satisfaction	.22**
4. Work engagement	.36***
Note. $n = 148$, ** $p < .01$, *** $p < .001$	

RQ4 Results

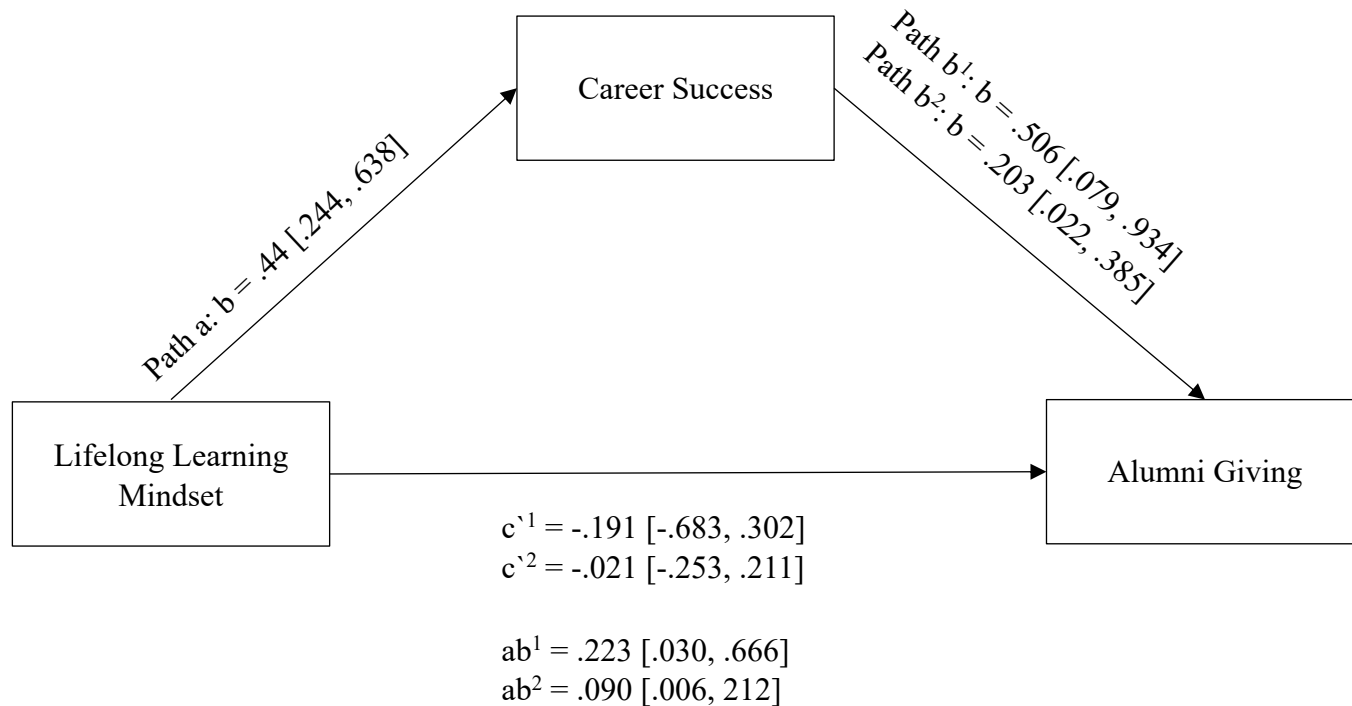


Figure 1. Direct and indirect effects of lifelong learning mindset on alumni giving. Path “1” denotes effect on previous giving behaviour, and “2” denotes effect on intention to give in the next two years

Implications and Lessons Learned

- Definition and measurement of LLM
- Connection of LLM to important outcomes -> educational institutions should be explicit about LLM as an expected outcome for students
- Use of existing data and artifacts for examination in research
- Ability to draw conclusions from small sample sizes and one time observations
- Alignment between assignment expectations/prompts and rubric dimensions

Next Steps

- Further testing of inter-rater reliability
- Moving beyond AFM to test these findings with other populations
- Gathering longitudinal data to examine how a lifelong learning mindset develops through academic and workplace experiences and into careers

Questions

Associated Publications

- Drewery, D., Pennaforte, A. & Pretti, T. J. (2016). Lifelong learning and cooperative education. In K. E. Zegwaard, M. Ford, & N. McRae (Eds.). *Refereed Proceedings of the 2nd International Research Symposium on Cooperative and Work-Integrated Education*: World Association for Cooperative Education (WACE), Victoria, British Columbia, Canada, 12-15 June 2016 (pp. 49-56). Hamilton, New Zealand: University of Waikato.
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