

Project Summary for IAL Website

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Project Title:	Measuring Employability & Life-long learning Mindsets needed for Careers in the 21st century
Project Number:	GA19-08
Year of Approval:	2021
Funding Source:	WDARF
Objectives and intended outcomes of the project:	We aim to develop a suite of psychological measures of the new, more proactive and entrepreneurial “employability-oriented” career mindsets and behaviours and the spirit of lifelong learning that are needed for greater career resilience in Singapore’s future century workforce. In doing so, we seek to provide a baseline measure for subsequent profiling/monitoring of our pre-workforce, tertiary students’ new career mindsets and lifelong learning attitudes. Additionally, we aim to understand: • how our undergraduates’ pre-University education/experiences (e.g., MOE’s Education & Career Guidance and other co-curricular activities) relate to the development of employability (beyond only employment) mindsets and results in more career self-management behaviours at University (e.g., through participation in experiential learning through internships, overseas exposure, intercultural exposure, and immersion in community work, broadening of human capital, etc.); • how young undergraduates’ career lifelong learning mindsets compare with that of more mature adult learners who have chosen to return to university for upgrading. The outcomes of this research can provide us with a multidimensional, leading indicator of the workforce’s psychological career readiness and resilience, lifelong learning and enterprising spirit needed in the 21st century context of work; and an opportunity to understand how early ECG initiatives in the General Education system can shape career attitudes during university years to prepare them for a better transition into the 21st century work environment.
Project Team	
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Summary of Project (up to 300 words)

Under the impact of Industry 4.0, Institutes of Higher learning (IHLs) need to prepare students with skillsets relevant to the future workforce. It is timely to understand the role of IHLs in shaping the employability and life-long learning mindsets and behaviours of both young and mature undergraduate learners, just before they enter or re-enter the workforce; and also provide a “baseline” measure to profile and track our undergraduates’ career and lifelong learning “mindsets” and their motivation to develop both breadth and depth of skills as they progress from their university studies into the workforce. The proposed research addresses a research gap in Singapore’s transformation of its traditional education system into a system for lifelong learning for employability. Today, the implementation of Singapore’s systematic Education and Career Guidance (ECG) ends at preuniversity polytechnics & junior colleges. There is a lack of measures for profiling/tracking of our pre-workforce, tertiary students’ 21st century career & lifelong learning, employability mindsets in our autonomous universities.

We therefore developed new self-report measures on mindset of contemporary 21st century meanings of working (emphasising on market-orientation, happenstance, and intrinsic meaning of work) and work-related learning that contrasted with the 20th century “Me-focussed” meaning of work and learning-as-a-means for employment. Using these new measures, we adopted a cohort-sequential design to follow up a group of freshmen and university graduates for about 2 years to:

- 1) elucidate how contemporary career mindset and lifelong learning attitudes shape the development of career self management competencies, career capital and activities students seek out to develop their employability;
- 2) find out which type of pre-university experiences and university pre-university experiences can help in enhancing employability;
- 3) understand how early ECG initiative in the general education system shapes the career readiness/resilience and lifelong learning mindsets by comparing full-time university students and part time adult students.

Summary of Project Findings, Deliverables and Impacts (up to 500 words)

Four main findings obtained from this project are summarized as follows:

- a) 21st century *employability* (“future-ready”) mindset is distinct from 20th century *employment* (“get-a-job”) mindset and not contradictory to each other. Both mindsets are unrelated to academic performance.
- b) Subjective self-perceived employability is distinct from employment and adds to the prediction of subjective career success one to two years after graduation from university.
- c) Mindsets affect the development/acquisition of career competencies, which affects self-perceived employability and career distress at the point of graduation. Such effects persist even for 2 years after graduation.
- d) Self-reported ECG exposure correlates positively with desired outcomes of ECG (e.g., navigate pathways with confidence, keep learning), which in turn correlates with desired career development outcomes for University Freshmen, including achieving more career competencies, having stronger self-perceived employability, engaging more proactive career behaviours, demonstrating better career adaptability and experiencing lower career distress,

We have shared our findings with local stake holders through several online meetings. Attendances included representatives from the Ministry of Education, and centers on Teaching, Learning and Pedagogy of IHLs. We have also organised a workshop titled “Employment/Lifelong learning Mindsets & challenges of School-to-Work transition amidst Singapore’s transformation of Education” with 20 stakeholders from local tertiary institutions, including researchers and representatives (assistant directors, career coaches) from the career and attachment offices of these tertiary institutions. In addition, we presented our results to international experts of the field of management, vocational psychology, education, career counselling in international conferences. More findings from this research will be reported in our forthcoming edited volume titled “Shifting Mindsets of Learning and Working: New Measures for Graduate Employability in the 21st century” (2027, Springer).

Our research contributes toward understanding the changing culture of learning and working needed in the 21st century workforce by providing:

1. Measures of Contemporary vs. Traditional Meanings of Working and Work-related Learning needed in the future workforce and in society,
2. Baseline data and research design template for long-term systematic monitoring and evaluation of interventions and mindset shifts, and their relations to workforce employability and employment over time.
3. The evidence-based template can help Singapore to systematically evaluate its strategic transformation of learning and workforce development for a rapidly changing Future of Work.

This can help to inform lifespan developmental research on inculcation and development of lifelong learning attitudes and behaviours from General Education to Higher and Continuing Education and workplace settings.