The Workforce Development Applied Research Fund (WDARF) Grant Call Singapore - 2021

RESEARCH FOCUS

Contents

Globalisation and the technological revolution that began in the last decades of the 20th century have affected how, what, and where we work. Coupled with the local labour market conditions, such changes resulting from globalisation and the technology transformation are impacting current and future workforce development at a pace that has not been experienced before.

On the global front, the COVID-19 pandemic has greatly impacted the world's economy, its firms, and its workers particularly in terms of skills development, digitalisation and business transformation. The consequences of the pandemic for sectors, jobs, and skills further underscore the importance of adult learning to provide re-training and up-skilling opportunities and addressing pressing labour market challenges.

Additionally, there is growing access to and use of information and communication technology, which is changing how goods and services are produced and how they are provided and consumed. There is also growing employment in high-skilled and services occupations, as well as creation of jobs with new skills required. With the rapid pace of skills obsolescence and technology deployment at the workplace, many of the jobs today will not exist in 2030. A list of reports on the recent developments in the area of workforce development and lifelong learning is attached in <u>Annex A</u>.

On the local front, Singapore is restructuring its economy with a focus on being knowledge-intensive and innovation-driven. As emphasized by Finance Minister Mr Heng Swee Keat at Budget 2021, when outlining plans for Singapore to 'Emerg(e) Stronger with Skilled Workers and Innovative Businesses', it is imperative for Singapore to respond quickly and effectively to the three 'mega-shifts' of the changing competitive landscape, rising inequalities, and importance of sustainability (Budget Speech 2021).

A major thrust to handle this is to develop the skills, talents, and creativity of Singapore's people. This will enable them to gain better access to good jobs and leverage on job opportunities. The employment landscape is undergoing fundamental changes, and COVID-19 will further impact this landscape and accelerate these changes, since a digital and innovation-driven economy means that businesses will need highly-skilled workers and deep talent who will in turn need to have both broader and deeper skills and creativity.

In addition, Singapore's resident workforce will shrink, resulting in a tighter labour market which may slow the economy . This is coupled with the ongoing effects of COVID-19 slowing the entry of foreign workers to support key industry sectors in Singapore that are dependent on foreign labour. Hence, raising our workforce productivity and competency, as well as adopting new technologies in areas such as automation and

robotics, will be vital to address manpower issues and support economic restructuring. The continued investment in education and skills upgrading will become even more critical for Singapore to prosper.

As part of our efforts to address the challenges ahead, Singapore's Deputy Prime Minister Tharman Shanmugaratnam launched the SkillsFuture national movement in 2015 to provide Singaporeans with opportunities to develop their fullest potential throughout their life, regardless of their starting point. The next bound of SkillsFuture aims to further this provision, through key initiatives as follow:

a. Strengthen the enterprise pillar of the skills ecosystem;

b. Enhance workplace learning capabilities;

c. Scale up SkillsFuture work-study pathways;

d. Encourage and facilitate lifelong learning; and

e. Scale up career transition programmes for mid-career workers.

Realising the SkillsFuture key thrusts require evidence-informed policies and development of best-in-class practices that are underpinned by high quality, reliable, and responsive skills and workforce development research. Unlike the quantity and quality of research efforts and capabilities in other areas, skills and workforce development research activities in Singapore are at an early stage of development.

To proliferate research relevant to realise the key initiatives of the next bound of SkillsFuture, SkillsFuture Singapore (SSG) has therefore set up a national-level research fund. Called the Workforce Development Applied Research Fund (WDARF), the fund supports research which will create a comprehensive knowledge base for evidence-informed policies and practices on workforce development and lifelong learning. This will in turn allow for the design of evidence-informed policies, programmes and practices and the evaluation of the effectiveness and impact of such policies, programmes and practices.

The WDARF Open Grant Call completed its first five-year tranche in 2020, with SGD$10.6m awarded to 23 projects across 7 institutions. The next five-year tranche of WDARF will run from 2021 to 2025, with SGD$10m. WDARF's key themes have been reviewed and updated to ensure that they keep pace with developments in Continuing Education and Training (CET) and, jobs and skills research. To be considered for funding through the WDARF, researchers' proposed projects must be in at least one of these three key research themes below. Researchers are encouraged to develop research proposals to address one or more of the research questions indicated in the following pages.

- Theme A: Developing Effective Adult Learning Pedagogies & Skills Development Strategies
- Theme B: Facilitating Learning & Career Choices among Adult Learners
- Theme C: Enhancing Employment Outcomes through Adult Learning & Skills Development

The research themes are further articulated in this document.

Research Theme A

A: Developing Effective Adult Learning Pedagogies and Skills Development Strategies

This research theme focuses on enhancing the effectiveness and impact of adult learning and skills development approaches, via technology, improved andragogy and innovations in both learning and practice. Given that training and learning are also situated within the evolving needs of industry and the economy, research under this thrust should also consider the role of enterprises and their partnerships with training providers in developing and contextualising teaching and learning approaches.

Broad Research Question:

What are the ways to ensure and enhance the efficacy, accessibility, adaptability and appropriateness of adult learning and skills development strategies and approaches, through technology, andragogy and innovations?

Areas of Focus:

1. Skills development strategies for Singapore's workforce (**Priority Area for 2021**)
   a. New forms of qualifications and their signalling effects
   b. Skills recognition strategies in HR practices
2. Enhancing enterprise-training provider nexus (**Priority Area for 2021**)
3. Developing new learning modalities (**Priority Area for 2021**)
   a. Technology in adult learning
   b. Work-Study Programmes
   c. Innovative CET business models
4. Understanding and designing workplace learning strategies
5. Strengthening the capabilities of adult educators

Research questions may include but are not limited to the following:

1. How can workers be better equipped with skills and experiences for new job areas, new jobs and next careers? What skills, including critical core skills, can be used across different occupations, and how can these skills be more effectively developed for better employability and wage outcomes?

2. How can enterprises better work with education and training providers, public agencies and trade associations and chambers to enhance skills recognition, improve training quality and the responsiveness of training to business needs, and foster a vibrant, inclusive and sustainable skills ecosystem?

3. What is the effectiveness of new trends in learning design and delivery (e.g. hybrid, online and blended learning, and using technology in the CET space) in the Singapore context, what are the best practices, and what support is needed to facilitate and scale up these new models to drive training participation?

4. How can institutions and employers effectively implement work-study / train-and-place programmes that incorporate emerging skills and prepare individuals for future job roles? What are the pedagogical changes required to the work-study/train-and-place approaches in the context of future of work?

5. How can we enable recognition of workplace learning and skills? How can workplaces and workers be transformed for effective workplace learning, and what is the role of institutions and other stakeholders? How can we make effective workplace learning more pervasive in Singapore, taking into consideration the current virtual and hybrid work arrangements?

6. Although learning often takes place within formal settings and learning environments, a great deal of valuable learning also takes place either deliberately or informally in everyday life. How then can non-formal and informal learning be recognised as a rich source of human capital?

Research Theme B

B: Facilitating Learning and Career Choices among Adult Learners

This research theme identifies the key factors influencing CET decisions and those related to career and employment, including the understanding of cognition, emotion and behaviours of all stakeholders concerned (i.e. individuals, employers, educators, career facilitators, policymakers). Cultural and socio-environmental factors, and the varying needs and differences among different adult learner groups (such as mature and vulnerable adult learners) including aspects of accessibility, adaptability and appropriateness should also be considered.

Broad Research Question:

How can we support all stakeholders concerned to make better CET and related career and employment decisions, and foster a culture of lifelong learning? What are different learner groups' career and learning trajectories, needs, contexts and perceptions of learning in an increasingly digitalised and interconnected economy and society?

Areas of Focus:

1. Understanding different learner groups (**Priority Area for 2021**)
   a. Fresh graduates

      b. Seniors
      c. Mature workers
      d. Niche and vulnerable (e.g. low-income) workers
2. Lifelong learning and career guidance
3. Lifelong learning culture (**Priority Area for 2021**)

<u>Research questions may include but are not limited to the following:</u>

1. What are the learning needs and barriers of different learner groups, and how can learning interventions better address gaps to ensure equal access and participation in CET opportunities across all groups, taking into consideration the current digital landscape.

Persons with Disabilities (PwDs) - What are the skills and learning needs of different types of PwDs (physical, sensorial, intellectual), what are their motivations for training and employment, what support (by who and how) is required to enhance training efficacy and translate training to application of skills at work?

2. How are different learner groups planning their careers and navigating the pathways to their career goals in a labour market that is seeing more diversity in employment arrangements (e.g. digitalisation of the workplace)? What are the strategies to encourage proactive career planning, and how can career facilitators and career platforms better support their efforts?

How can we enhance career transitions for key demographic groups in response to rapid economic shifts and frequent disruptions, by bridging skills gaps and supporting individuals from the social, cognitive and emotional perspectives during these transitions?

3.How do we engender and sustain a lifelong learning culture? How do we grow, develop and shift mindsets and behaviours to embrace and engage in lifelong learning and increase training participation?

What are some key approaches and strategies (including the use of behavioural insights and nudges) to encourage and inculcate lifelong learning in individuals and in Singapore; and how may these approaches and strategies differ for different learner groups?

How do we reconcile between lifelong learning and learning for tangible outcomes such as better employment prospects and wage increase? How can we encourage individuals to adopt a lifelong learning mindset and for employers to recognise and remunerate workers based on skills developed through lifelong learning?

Research Theme C

C: Enhancing Employment Outcomes through Adult Learning and Skills Development

This research theme aims to generate insights and provide recommendations for sustaining Singapore's competitive advantage in the global economy through adult learning and skills development that enables Singaporeans to access good jobs, earn good wages and stay employable. Research should be directed at examining emerging jobs and skills, returns and other benefits of skills development strategies, and exploring interventions (e.g. behavioural insights, financial and non-financial incentives) to guide locals towards better leveraging of learning and better employment outcomes.

Broad Research Question:

What is the role of adult learning and skills development in enabling and sustaining economic vibrancy and growth in Singapore, and how will it evolve moving forward? How effective and efficient have skills development policies and interventions been in supporting economic needs and growth? How could skills development and training reduce social inequality and bridge income divide?

Areas of Focus:

1. Identifying emerging jobs and skills (**Priority Area for 2021**)
2. Returns on investment of skills development strategies
3. Designing policy incentives and interventions for CET systems
4. Job redesign strategies for skills development

Research question may include but are not limited to the following:

1. What are the emerging jobs and skills trends in the short, medium and long-term, how can we better identify current and future skills needs (based on global trends, local economic and industrial policy), and how can training better address skills trends and emerging skills?

2. What is the impact of technology/AI on the future of work, jobs, labour market structure? How have job roles changed or are changing against the broader changing global and technological-laden landscape? What are the differences in AI readiness across workers and industries, and what are the skills needed for AI collaborations?

3. What are the returns on skills investment (e.g., individual income, business performance, economic growth and competitiveness) to individuals, enterprises and society?

4. How do we measure the impact of incentives/interventions on encouraging skills upgrading, improving career options and raising earning potential, and better determine how incentives/interventions can be more targeted, efficient and accessible?

5. What are the ways to motivate and influence individuals to take ownership of learning, skills acquisition and employment in a sustainable manner? How can the interventions result in lasting behavioural change?

6. What are the drivers of job redesign and its impact on skills and jobs (salary, retention, attraction)? How is job design impacted by the digitalisation of the workplace and production process(es), and changes brought about by COVID-19? How can job redesign in a post-COVID economy bring about new job opportunities and skills training for different segments?

ANNEX A – LIST OF RECOMMENDED READING

Research Theme A: *Developing Effective Adult Learning Pedagogies and Skills Development Strategies*

World Economic Forum (2021). *Education and Skills.* Retrieved from
https://intelligence.weforum.org/topics/a1Gb0000000LPFfEAO?tab=publications

(Focuses on technology and innovation)

World Economic Forum (2020). *Jobs of Tomorrow: Mapping Opportunity in the New Economy.* Retrieved from https://www.weforum.org/reports/jobs-of-tomorrow-mapping-opportunity-in-the-new-economy

(Focuses on fast emerging professions)

International Labour Organisation (2021). World Employment and Social Outlook: Trends 2021. Retrieved from
https://intelligence.weforum.org/topics/a1Gb0000000LPFfEAO?tab=publications

(Focuses on effect of COVID-19 pandemic on technological innovation)

International Labour Organisation (2021). The role of digital labour platforms in transforming the world of work. Retrieved from https://www.ilo.org/global/research/global-reports/weso/2021/WCMS_771749/lang--en/index.htm

(Focuses on how the contemporary platform economy is transforming the way work is organized)

Key Journals

☐ Work and Occupations (https://journals.sagepub.com/home/wox)
☐ Journal of Industrial Relations (https://journals.sagepub.com/home/jir)
☐ The international Journal of Human Resource Management
   (https://www.tandfonline.com/action/showAxaArticles?journalCode=rijh20)

Thrust B: Facilitating Learning and Career Choices among Adult Learners

Organisation for Economic Cooperation & Development (2021). Fostering a culture of lifelong learning. Retrieved from https://www.oecd-ilibrary.org/sites/cd9e1561-en/index.html?itemId=/content/component/cd9e1561-en

(Focuses on lifelong learning culture)

Organisation for Economic Cooperation & Development (2021). OECD Skills Outlook 2021: Learning for Life*, OECD Publishing.*

Retrieved from https://www.oecd-ilibrary.org/education/oecd-skills-outlook-2021_0ae365b4-en

(The report exploits comparative quantitative data to highlight the key role played by socio-emotional and motivational factors in shaping successful engagement with lifelong learning)

Deloitte Global Human Capital Trends (2019*). The Social Enterprise in a world disrupted* Retrieved from https://www2.deloitte.com/us/en/insights/focus/human-capital-trends.html

(Highlights how social enterprise reinvents itself on the back of COVID-19 pandemic disruption)

Wales 4.0 (2019). *Delivering Economic Transformation for a Better Future of Work).* Retrieved from: https://gov.wales/sites/default/files/publications/2019-09/delivering-economic-transformation-for-a-better-future-of-work.pdf

(Focuses on the Wales' strategies for economic transformation through digital innovations)

<u>Key Journals</u>

- ☐ Work, Employment and Society
  (https://journals.sagepub.com/home/wes)
- ☐ Higher Education, Skills and Work-based learning
  (https://www.emeraldgrouppublishing.com/heswbl.htm)
- ☐ Journal of Vocational Behaviour
  (https://www.journals.elsevier.com/journal-of-vocational-behavior)

Thrust C: Enhancing Employment Outcomes through Adult Learning and Skills Development

UNESCO Institute for Lifelong Learning (2021). Curriculum globALE: competency framework for adult educators Retrieved from https://uil.unesco.org/adult-education/curriculum-globale-competency-framework-adult-educators

(A reference framework, Curriculum globALE, improves not only the standard of adult learning and education programmes but also the capacities of countries to meet the Sustainable Development Goals.)

World Economic Forum: Upskilling for Shared Prosperity. Retrieved from

http://www3.weforum.org/docs/WEF_Upskilling_for_Shared_Prosperity_2021.pdf

(provides a quantitative analysis of the impact upskilling can have on economic growth)

UNESCO Education Sector (2020). Adult learning and education and COVID-19 Retrieved from: https://uil.unesco.org/adult-education/issue-note-no-26-adult-learning-and-education-and-covid-19

(Focuses on role played by ALE and its means of delivery, such as through ICTs for distance learning solutions, and community learning centres (CLCs), in supporting individuals and communities to rise to challenges such as those posed by the pandemic.)

<u>Key Journals</u>

- ☐ Journal of Workplace Learning (http://emeraldinsight.com/1366-5626.htm)
- ☐ Journal of Education and Work (https://www.tandfonline.com/toc/cjew20/current)
- ☐ Research in Learning Technology (https://journal.alt.ac.uk/index.php/rlt)

Journal of Vocational Education & Training (https://www.tandfonline.com/loi/rjve20