

Project Summary for IAL Website

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Project Title:	Challenge-Learn: Developing and Assessing an Andragogical Programme and System based on Co-Skilling to Enhance Employability and Learning
Project Number:	GA19-07
Year of Approval:	2021
Funding Source:	WDARF
Objectives and intended outcomes of the project:	Co-Skilling seeks to connect adult learning and work by incorporating career-related challenges into one's learning decisions and process. This study evaluates the effectiveness of Co-Skilling principles through the implementation of a Challenge-Learn programme in the form of a web-based system.
Project Team	
Principal Investigator:	L. G. Pee
Summary of Project (up to 300 words)	
Co-Skilling is a novel approach to adult learning, developed based on the principal investigator's research on Social Informatics of Knowledge. This approach centres on the identification of a work-related challenge of interest to both the learner and their current or prospective employer. The challenge serves as a basis for selecting relevant courses (rather than relying on intuition or prevailing trends). It also provides a real-world context for applying course knowledge and skills (instead of working on hypothetical problems). The learner is encouraged to co-create a solution in collaboration with key career stakeholders – such as current employer or potential clients – thereby demonstrating their knowledge and skills beyond certificates. Co-Skilling overlaps with several established learning approaches but remains distinct in important ways. It is more specific than problem-based learning in that it prioritizes career-related problems. Unlike authentic learning, Co-Skilling emphasizes mutual benefit for all stakeholders involved in the co-creation, not just the learner. It also differs from experiential learning by aiming to generate tangible, usable learning outcomes that make the learner's newly acquired capabilities and potential clearly visible. Co-Skilling benefits both learners and employers. Learners can demonstrate their knowledge and skills more concretely, while employers gain potentially useful ideas or solutions. Co-Skilling is also useful for individuals who are unemployed by offering a means to showcase their competencies to prospective employers. Moreover, the collection of work-related challenges addressed through Co-Skilling serves as a rich source of insights into emerging and in-demand knowledge and skills. These insights can inform course design and strategic planning for instructors and educational institutions. This project aims to evaluate the effectiveness of Co-Skilling principles through prototyping a Challenge-Learn programme and system. Co-Skilling's impact on employability is assessed through a randomized controlled trial. The usefulness of the generated insights to course instructors and planners is also examined.	

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

The findings indicate that Co-Skilling is effective to some degree – those who used the prototype system showed significant improvement in three of the five employability dimensions (i.e., Occupational Expertise, Anticipation and Optimisation, and Personal Flexibility), compared to those in the control condition. The strongest impact of Co-Skilling was observed on Personal Flexibility, followed by Anticipation and Optimisation, and Occupational Expertise.

Two dimensions of employability did not improve significantly. For Corporate Sense, there was some positive change, but it was not statistically significant. This may be partly due to the higher mean Corporate Sense before intervention. Participants may have focused their efforts on improving the weaker dimensions of employability. Another possible reason identified in follow-up interviews is that developing corporate sense depends significantly on factors beyond the learner’s control, such as the availability of colleagues and their motivation to engage in sharing responsibilities, experience, and knowledge. For Balance between work and life, there was some improvement, albeit not statistically significant. Like Corporate Sense, the baseline mean of Balance was higher. We expected Co-Skilling to improve Balance because connecting learning and work should help learners focus their time on career-relevant topics. However, follow-up interviews indicated that the effects may only be noticeable or achievable in the longer term. In practice, taking part-time courses tends to reduce time available for personal relaxation and even work tasks in the short term.

All course instructors and planners found the list of sought-after knowledge and skills informative. Specifically, it helped to validate their observations and expectations about “the next skill”, provided fresh ideas for new course offerings, and informed the updating of existing course content. They also appreciated the access to actual work-related challenges, which helped to clarify the context for understanding how specific knowledge or skill is practically relevant.

The key theoretical contribution of this study is the development of the concept of Co-Skilling, articulated through a set of principles for adult learning. The principles offer a basis for cumulative research – future research can refine or add new principles to improve the effectiveness of Co-Skilling. This study also contributed to theoretical development by empirically evaluating the Co-Skilling principles. The findings indicate that Co-Skilling significantly improves three out of five dimensions of employability.

There are several potential practical impacts. For adult learners, this study shows that employability can be enhanced by connecting learning to career-related challenges. For employers sponsoring employee learning, the more tangible, usable learning outcomes generated through Co-Skilling are more clearly linked to organisational performance. For adult education providers, the collection of work-related challenges addressed through Co-Skilling provides insights into in-demand course topics and informs course design. For SkillsFuture policies and ecosystem, Co-Skilling can complement the existing Work-Learn, Work-Study, and Earn-and-Learn programmes by providing personalized and systematic guidance for connecting learning to work.