

Literacy and Numeracy Outcomes for Learners: Summary

Anne Alkema and Heather McDonald (2018)

The TEC commissioned this work in 2018. This summary is taken from the full discussion paper prepared for them. The outcomes were developed based on data from a literature review; and interviews with stakeholders (11); practitioners (6) and international experts (5). The literature includes large scale international surveys, longitudinal cohort studies, smaller scale research and evaluation studies, and literature reviews. It also draws from outcomes thinking and frameworks that are being used internationally and locally by ACE Aotearoa, Literacy Aotearoa, and English Language Partners New Zealand.

The case for wellbeing, social and economic outcomes

Since the mid 2000s New Zealand's adult literacy and numeracy policy has looked to improve the literacy, language and numeracy levels of learners. In the main the driver has been from a human capital perspective with a focus on improving learners' knowledge and skills to get them either into employment, or to increase their employability skills if they are in employment, or getting them to progress to further education and qualifications.

Taking this approach is not a negative. Lane and Murray (2015)¹ report a range of economic benefits to learners and to firms when literacy and numeracy levels are raised to Level 3 on the PIAAC scale. Besides doing better in the labour market, workers with relatively higher skills experience less workplace illness and fewer accidents. This benefits both the individual and their employers.

Given the current government approach in relation to the Four Capitals² it is worthwhile to expand outcomes thinking in relation to education and incorporate wider aspects of human capital such as wellbeing and aspects related to social capital that develop along with learners' knowledge and skills. The Treasury states that the inclusion of social capital is important as it:

has a large and well-evidenced impact on economic performance, democratic functioning, public safety, educational outcomes, labour market outcomes, and individual health and wellbeing. The particular risk is that government agencies take it for granted because it is rarely measured. Potentially detrimental effects include increased income inequality, poverty, housing mobility and ownership rates, family and whānau wellbeing, institutional quality, educational outcomes and individual health and wellbeing.³

¹ Lane, J., & Murray, T.S. (2015). *SMARTEN UP It's time to build essential skills* Calgary: Canada West Foundation.

² The Treasury. (2018). Our Living Standards Framework <https://treasury.govt.nz/information-and-services/nz-economy/living-standards/our-living-standards-framework>

³ The New Zealand Treasury. (2017). *The living standards framework*. Powerpoint Presentation. Accessed at <https://treasury.govt.nz/sites/default/files/2017-12/lst-pres-13dec17.pdf>

Measuring outcomes based on a narrow human capital approach can be relatively simple. It is fairly straight forward to measure whether a person has gone into employment or on to further education or training or the extent to which their earnings might have increased. But the Treasury points out that there are no “international standards” for measuring social capital and has taken a broad definition that it incorporates:

- Networks, attitudes and norms promoting coordination and collaboration between people;
- Individuals’ social connections that provide emotional, instrumental and informational support.⁴

A recently released report based on the Canadian PIAAC results in 2012 makes the case for the connection between literacy and numeracy skills and social and civic outcomes.⁵ It shows there is a link between literacy and numeracy proficiency and wider outcomes, but that it is not quite as straight forward as ‘higher proficiency equals better outcomes’. However, it does show that those who score at Level 4 and above in PIAAC report positive health and social outcomes.

Regression analyses confirm that Canadians with stronger literacy, numeracy, and PS-TRE skills are more likely to report positive health, trust, volunteering, and political efficacy than those with lower skills. These relationships persist when controls are added for factors likely to influence the relationship between skills and health and social outcomes, including age, gender, educational attainment, employment status, Indigenous identity, immigrant status, and language in which the PIAAC assessment was completed. Literacy, numeracy, and PS-TRE are all strongly associated with each of the four measured health and social outcomes. The likelihood of reporting good health and higher levels of trust, volunteerism, and political efficacy generally rises as proficiency improves.⁶

Other research in the literacy and numeracy field also supports the thinking about the value of going beyond human capital outcomes and the importance of the range of outcomes that support individuals in their roles as parents, citizens and workers (Vorhaus et, al, 2011).⁷ It shows that while the human capital approach has been a strong policy driver, social capital also needs to be attended to, given the links between low literacy and numeracy and social exclusion (Balatti, et al., 2009).⁸ The resulting social benefits bring greater participation in

⁴ The New Zealand Treasury. (2017). *The living standards framework*. Powerpoint Presentation. Accessed at <https://treasury.govt.nz/sites/default/files/2017-12/lstf-pres-13dec17.pdf>

⁵ Council of Ministers of Education. (2018). *The health and social dimensions of adult skills in Canada: Findings from the programme for the international assessment of adult competencies (PIAAC)*. Toronto: Author

⁶ Ibid (p.1)

⁷ Vorhaus, J., Litster, J., Frearson, M., & Johnson, S. (2011). *Review of Research and Evaluation on Improving Adult Literacy and Numeracy Skills*: RESEARCH PAPER NUMBER 61. London: Department for Business, Innovation and Skills.

⁸ Balatti, J., Black, S., & Falk, I. (2009). *A new social capital paradigm for adult literacy: Partnerships, policy and pedagogy*. Adelaide: NCVER.

community life, more active citizenship and access to further education or employment opportunities (Leach et al., 2009; Balatti, et al., 2007).⁹

While economic and social outcomes can be seen as ‘hard’ outcomes there are also what are often referred to as the ‘soft’ outcomes. However, ‘soft’ is a misnomer as it belies the importance of these outcomes for learners and the extent to which these outcomes underpin what happens for them and their future pathways. These outcomes include: confidence, self-efficacy, self-esteem, trust, hope for the future, cultural identity, resilience that occur when learners develop new knowledge and skills. Gyarmati et al. (2014) in their research on workplace literacy programmes in Canada refer to these as psycho social outcomes and also talk about them as contributing to health and wellbeing.¹⁰ While this is important at the micro level for individuals, it is also important at the macro government level. Here Lane and Murray (2015) maintain that moving all adults to Level 3 on the literacy scale would generate hundreds of millions of dollars in savings on health expenditure.

People’s wellbeing is subjective in that is how people feel about themselves / perceive themselves. But it can play out in health statistics in terms of mental health and suicide rates. Australian research has looked at the economic impact of the loss of confidence, hope and self-esteem has on young Australians and estimates it has led to mental health issues costing Australia \$7.2 billion per annum (The Foundation for Young Australians, 2018).¹¹

The Framework

The framework has been designed around the funding streams available for adult learners. This has been done as a way of recognising the diversity of learners who are attracted to programmes in provider, community and workplace settings.

Based on the literature the framework has been developed around three outcome domains: wellbeing, social, and economic, with the outcomes being the effect of the learning programmes. The figure below depicts these outcomes and the dependencies upon which they rest.

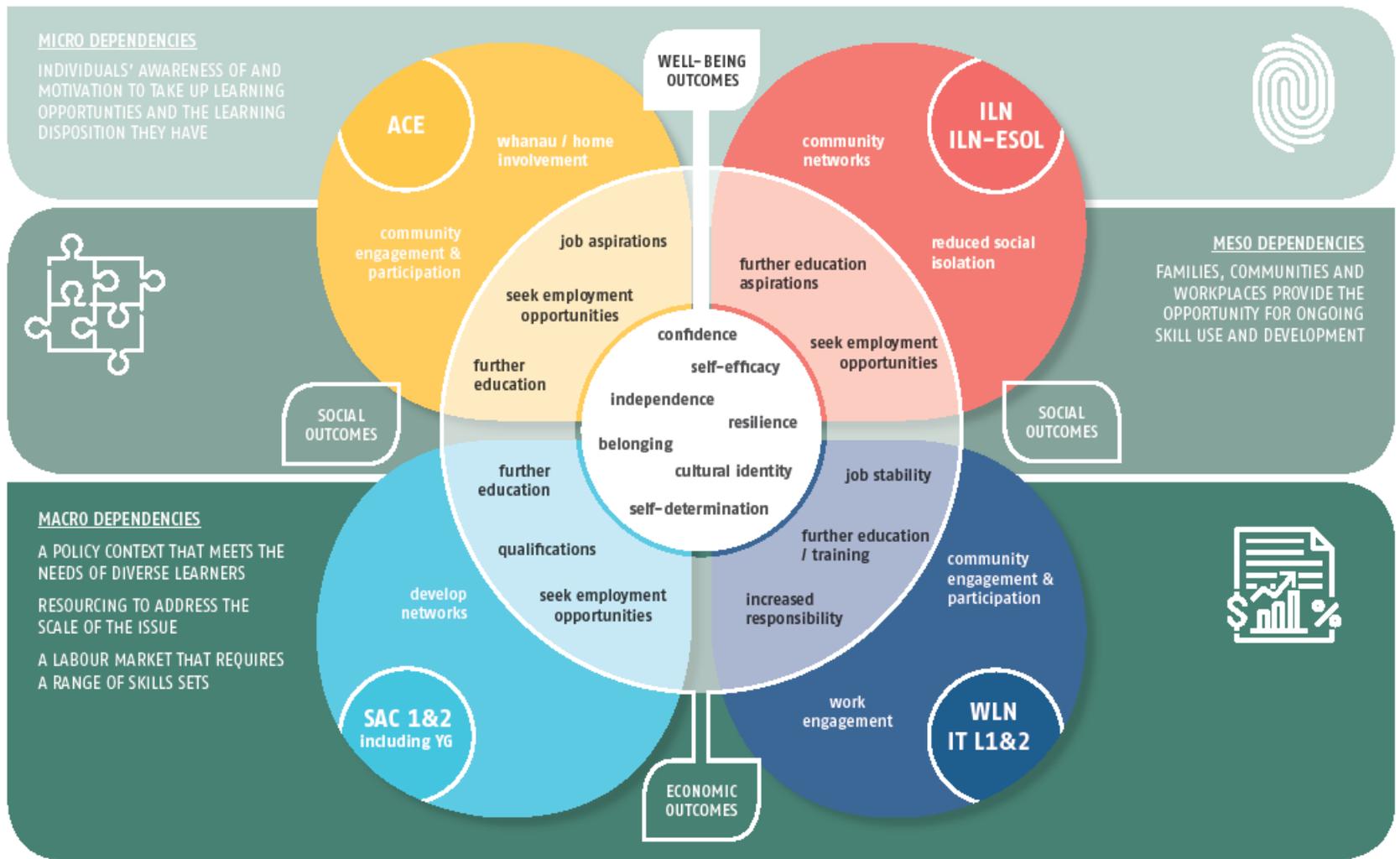
The companion table has indicators and ways to measure these outcomes. Table One shows the indicators at the micro, meso and macro levels. As such they can be used by providers at

⁹ Leach, L., Zepke, N., Haworth, P., Isaacs, P., & Nepia, W. (2009). *Organisational factors that affect delivery of adult literacy, language and numeracy provision: A review of international literature*. Massey University College of Education; Balatti, J., Black, S., & Falk, I. (2007). *Teaching for social capital outcomes: The case of adult literacy and numeracy courses in VET*. Conference Paper.

¹⁰ Gyarmati, D., Leckie, N., Dowie, M., Palameta, B., Hui, T., Dunn, E., & Hébert, S. (2014). *UPSKILL: A Credible Test of Workplace Literacy and Essential Skills Training*. Ottawa: Social Research and Demonstration Corporation.

¹¹ The Foundation for Young Australians. (2018). *The new work reality: FYA’s new work order report series*. Australia: Author.

the micro level to measure short-term outcomes for learners, by firms and communities at the meso level and by government at the macro level.



FOUNDATION EDUCATION OUTCOMES FOR LEARNERS

Indicators and Measures

Indicators are observations that shows progress is being made towards an outcome. From a provider perspective these will be short-term outcomes at the micro level. From a firm and community perspective these are at the meso level, and at the macro level these indicators are at a wider societal level. At all levels there will be a range of contributing factors and outcomes cannot solely be attributed to developing knowledge and skills around literacy and numeracy. Note also needs to be taken that outcomes will occur in the short, medium and long term. Therefore these outcomes and indicators work on the premise that “at the time of and after programmes” learners show these outcomes. The indicators and measures are based on the findings from the literature and interviews with stakeholders and the framework builds from that of Schueler et al., (2017).¹²

Table One: Indicators and Measures

Levels	Wellbeing Indicators	As measured by	Social Indicators	As measured by	Economic Indicators	As measured by
Micro: Individual level	<ul style="list-style-type: none"> • Life satisfaction • Hope for the future • Improved mental and physical health • Feel more able, sense of value and belonging 	<ul style="list-style-type: none"> • Self report and self rated measures pre- and post programme • Reduced absenteeism from work or learning programmes 	<ul style="list-style-type: none"> • Participation in cultural, church, sport, and other community activities • Engagement with children’s schools • Participation in voluntary work • Improved relationships with family and others • Access government and community services independently 	<ul style="list-style-type: none"> • Self report pre- and post programme • Ako Aotearoa practices tool¹³ 	<ul style="list-style-type: none"> • Gain knowledge and skills at the foundation level • Gain qualifications • Apply for jobs • Enter the workforce • Gain a better / stable job • Improve earnings • Engage at work • Seek further education 	<ul style="list-style-type: none"> • Literacy and Numeracy for Adults Assessment Tool • The number attaining qualifications • Reduced absenteeism • IDI earnings data • Employer/tutor report

¹² Schueler, J., Stanwick, J. & Loveder, P. (2017). *A framework to better measure the return on investment from TVET: Occasional paper*. Adelaide: NCVER.

¹³ Whitten, D. (2018). *Enhancing and measuring adult literacy and numeracy progress: Exploring practices, outcomes measures, and quality indicators*. Wellington: Ako Aotearoa.

			<ul style="list-style-type: none"> • Speaking up at work and in community settings • Reduction in engagement with the justice system 			
Meso: Community / firm level	<ul style="list-style-type: none"> • Improved experience of fair treatment 	<ul style="list-style-type: none"> • Reduced reported discrimination 	<ul style="list-style-type: none"> • Improved social equity • Safer communities • Higher participation in civic activities 	<ul style="list-style-type: none"> • Participation by diverse groups in community activities • Voter turnout at local and national level • Reduced reporting of loneliness 	<ul style="list-style-type: none"> • Safer workplaces • Reduced wastage • Improved workplace efficiencies • Improved quality of goods and services • Adaptable workforce who can cope with technology changes • Employee retention • Increased profitability • Reduced conflict 	<p>Data captured at firm level through</p> <ul style="list-style-type: none"> • Health and safety statistics • Cost reductions • Increased sales • Increased customer satisfaction • Reduced turnover • Improved workplace relations
Macro: Society	<ul style="list-style-type: none"> • Reduced health spending • Improved population health 	Health Statistics	<ul style="list-style-type: none"> • Social cohesion 	<ul style="list-style-type: none"> • Crime Statistics 	<ul style="list-style-type: none"> • Increased labour market participation, particularly for more vulnerable • Improved workforce skill levels 	<ul style="list-style-type: none"> • Employment statistics • Employers able to get the skilled workers they need

Comment

There are challenges to measuring the outcomes described above and there are a number of ways in which quantitative and qualitative data can be gathered to assess the extent to which the outcomes are achieved. They include for example, self-reported data from learners, providers and employers; Assessment Tool data; and 'harder' statistical data from government data basis. Changes over time can also be measured through further iterations of PIAAC.

Consideration needs to be given to what it is feasible to collect at each level. For example, providers may observe and gather self-reported, qualitative data on social and wellbeing indicators at the micro level and where possible the meso level. They can gather quantitative data on literacy and numeracy proficiency and the numbers of learners continuing with further learning, progressing to employment, or gaining qualifications. Employers can also report at the meso level on what is happening in their workplaces.

At the micro and meso levels there is likely to be evidence of attribution, however, there will also be others things impacting on outcomes for learners. At the macro level attribution will not be possible as there will be a range of factors that contribute at this level.

Overall, measuring wellbeing, social and economic outcomes provides the opportunity for the TEC to look more broadly at the impact of their investment and the contribution this makes to peoples' lives.