



Reach of Workplace Literacy and Numeracy Fund 2017 and Impact of the Employer-led Strand

Skills Highway
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Table of Contents

Introduction	3
Key Point Summary	3
The WLN Fund	3
Reach of the WLN Fund	4
Impact of EWLN programmes.....	6
Discussion.....	10
<i>Reaching employees and industries with low levels of literacy and numeracy</i>	<i>11</i>
<i>The Labour Market.....</i>	<i>11</i>
<i>Importance of Digital Skills and Financial Literacy.....</i>	<i>12</i>
<i>Productivity.....</i>	<i>14</i>
Conclusion.....	14

Introduction

This report uses data supplied by the Tertiary Education Commission on the uptake of the Workplace Literacy and Numeracy (WLN) Fund in 2017. This includes:

- quantitative data from 20 Tertiary Education Organisations (TEOs) who ran programmes in 2017 with 5,569 employees from 1,614 companies (TEO-led)
- quantitative and qualitative data from 29 employers who ran programmes for approximately 1,414 learners¹ from late 2016 and throughout 2017 (EWLN) and who submitted final reports prior to March 2018
- qualitative data from five success stories written on EWLN programmes run in 2017.

This paper follows three previous studies² on the WLN Fund and where possible, comparisons are made to the data used to inform those studies.

Key Point Summary

- The WLN fund is reaching those identified in PIAAC as having the lowest skills – by demographic and industry.
- Literacy and numeracy gain is difficult to determine as the providers in the TEO-led strand are not required to provide Literacy and Numeracy for Adults Assessment Tool results and not all of the employers provide statistically significant results.
- The reports from employers in the EWLN programmes show at the firm level:
 - employees have become more confident and competent at their jobs.
 - The new-found confidence results in increased engagement and participation in the workplace which in turn results in, for example, improved health and safety, active problem solving and improved workplace efficiencies.
- The reports also show that at an individual level:
 - employees are interested in further workplace training programmes
 - some employees take on roles of responsibility e.g., as health and safety committee members, supervisory roles
 - some employees develop digital skills and are better placed to use technology in the workplace
 - some employees progress on to industry training qualifications or on to career pathways that have been developed in their companies.

The WLN Fund

According to the Funding Determination the purposes of the WLN Fund are to:

¹ The “approximate” figure is because one employer provided no demographic data, but their application was for 65 employees. Thirty-one employers provided demographic data for 1,662 employees

² Alkema, A. (2015). *Maximising the benefits of the workplace literacy fund*. Wellington: Tertiary Education Commission; Alkema, A. (2016). *Workplace literacy fund: Employer-led outcomes report 2013-2015*. Wellington: Industry Training Federation; Alkema, A. (2017). *Reach and impact of the workplace literacy and numeracy fund 2015/2016*. Wellington: Industry Training Federation. (Unpublished Report).

- a. Increase the literacy and numeracy skills of employees; and
- b. Contribute to workplace productivity through the provision and evaluation of literacy and numeracy learning in a workplace context.³

As such programmes run through this fund look to develop the skills of low skilled workers so they are better able to do their current jobs and better placed to pursue qualifications and/or higher-level roles.

The WLN Fund sits at \$20-\$22million a year. It has two strands, with the TEOs having around 80 percent of the fund on plan. The remaining fund is contestable and available through applications from employers. Note that this latter allocation can vary on a yearly basis depending on the availability of funding. From 2017, learners were eligible to receive between 25 and 80 hours of tuition.

Reach of the WLN Fund

This section of the report describes where the programmes are delivered, who they are delivered to, and the industries they work in.

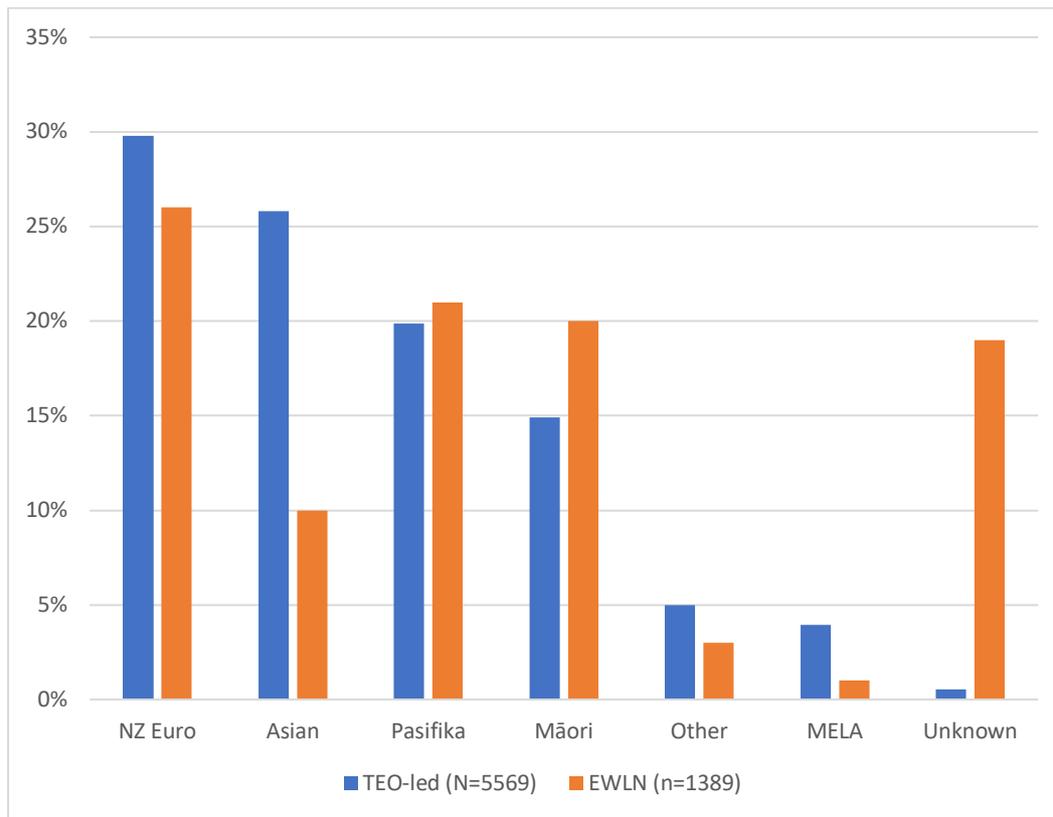
The 29 EWLN programmes varied in size from 20-257 learners, with a median of 30 and average of 50. In the 1,614 TEO-led programmes the number of employees delivered to varied from 1-159. Of these, 73 percent (1,185) were delivered to one person in a company and a further 232 programmes were delivered to between two and five employees. However, at the other end of the scale, 11 programmes were delivered to between 20-95 employees with a further four programmes being delivered to between 108-159 employees.

For EWLN, 27 employers provided ethnicity data for 1,389 employees. Combined, Māori and Pasifika make up 41 percent of these people.⁴ Across the EWLN programmes the “unknown” figure is high as one large programme stated ethnicity as ‘unknown’ for 217 of its 257 learners. In TEO-led programmes, when combined, Māori and Pasifika make up 35 percent of the learners. As the figure below shows, the key area of difference between the two strands is with Asian employees, where there is a larger percentage in TEO-led than EWLN programmes. It is not clear why this is the case, however a possible contributing factor is that two specialist language providers delivered to just over a third of these employees. Neither of these providers deliver programmes in the EWLN fund.

³ From *determination of design of Funding Mechanism: Literacy and Numeracy Provision*. Accessed at <http://www.tec.govt.nz/assets/Funding-mechanisms/2017-Literacy-and-Numeracy-funding-mechanism.pdf>

⁴ This figure is potentially higher as the company that did not provide ethnicity data was from the Northland region.

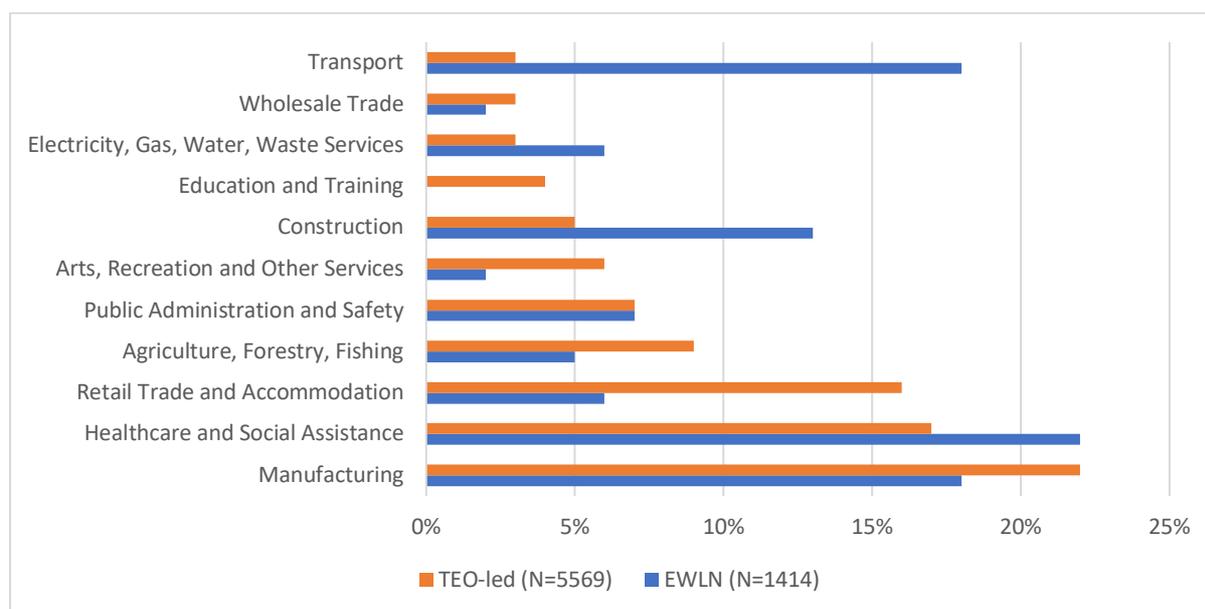
Figure One: TEO-led / EWLN ethnicity comparison 2017



Very few employers in the EWLN strand provided migrant and refugee data with only 113 migrants and 10 former refugees recorded as opposed to the TEO-led where migrants made up 44 percent of those in programmes. In addition, there were 100 employees from refugee backgrounds. In EWLN, 58 percent of the employees were male. Males accounted for 49 percent in TEO-led programmes. In TEO-led programmes employees are evenly spread across the age-groups (21-30; 31-40; 41-50; 51-60) ranges with only 11 percent being outside this range.

Figure Two shows there are small differences by industry. Here, EWLN has a larger percentage of delivery in the transport and construction sectors than the TEO-led. And TEO-led is stronger in the retail trade and accommodation sector. However the former is attributed to one programme in a large company in the transport sector. And in the latter, the higher numbers are accounted for by delivery to three large companies and to single employees in small retail or hospitality companies.

Figure Two: TEO-led / EWLN industry comparison 2017



When the industry data are looked at over time for EWLN they show the percentage of employees in manufacturing has dropped and there has been an increase in delivery to the construction and healthcare sectors since 2015/2016. The TEO-led industries in 2017 have essentially the same pattern as the industries in 2015/2016 with the exception of transport, which made up six percent of delivery in 2015/2016 and three percent in 2017.

Twenty-one of the EWLN programmes ran in Auckland⁵ and these were accessed by 44 percent (627) of employees. Six programmes ran in Canterbury and were accessed by 15 percent (208) of the employees. This was followed by seven programmes in Waikato accessed by 10 percent (137) of the employees. Seven percent of the delivery occurred in each of Wellington and the Bay of Plenty. This represents a slight change to 2015/2016 delivery with a drop in the delivery in Auckland.

In 2017 there was also a drop in delivery in the Auckland region in the TEO-led strand, from 46 percent in 2015/2016 to 40 percent (2,236). There was a slight increase in Wellington to 16 percent (912), 10 percent in Canterbury and eight percent in Waikato. In Auckland 40 percent of the delivery was in Auckland City and 39 percent in Manukau. This was a change to the 2015/2016 delivery when 63 percent was in Auckland City and 19 percent on Manukau. Delivery to the North Shore and Waitakere was similar across the years at around eight percent in each authority.

Impact of EWLN programmes

This section of the report describes the outcomes from the EWLN programmes. Twenty-nine employers provided narrative data to the TEC on what has happened in their workplaces and for their employees who attended programmes. Additional information is taken from five success

⁵ Note nine employers ran programmes across multiple sites.

stories on the Skills Highway website.⁶ The TEOs do not provide narrative data so it is not possible to describe the outcomes from their programmes.

As with previous years it is not possible to gauge the extent to which literacy and numeracy skills (proficiency) improve overall. While employers have improved their reporting practices with 12 out of 29 now providing information about statistically significant gain, the variation in reported gain makes it difficult to draw conclusions, except to say there is limited gain. However as with previous years what can be noted is the employers' comments about an improvement in tasks that require reading, writing, speaking, listening and numeracy (practices). Improvements that incorporate tasks, e.g., form filling with times sheets, Health and Safety forms, are being done more efficiently or more accurately or more often. Employees also report that they are reading more at work and understanding more of what they read. They are also speaking up more in team meetings and about Health and Safety.

In relation to changes in employees, the same themes as in previous years come through in these reports. Namely improved confidence that leads to improved competence and employees communicating better (including cross cultural communication), participating and engaging at work, and listening to others. In turn, this leads to better team work. It also leads them to being more proactive and being prepared to problem solve. For some this has also led to improved communications at home.

I have enjoyed this course very much learning about different cultures, communication skills and cross-cultural communication. (Wholesale Trade)

This course gives me skills to communicate with colleagues and peers/service users all round, face to face, phone and email. (Hospitality)

Managers who have worked with the individuals throughout the year have noticed a real difference in the performance and ability to try new tasks rather than sitting back and being complacent in their approach to teamwork. (Horticulture)

Seventeen employers mentioned a health and safety focus in programmes which has resulted in greater understanding of legislation and rights and responsibilities, and in improved workplace behaviours related to hazard identification, incident reporting and wearing Personal Protective Equipment (PPE). A key point to note in relation to this is the responsibility employees 'on the shop floor' are taking for their own health and safety and that of others.

"The new law pushes us to do more with Health and Safety. We understand more now and why it is important," says Danesh. "Even the little things like PPE and why we have to wear it. We didn't use to like wearing masks – now everyone is wearing them."

Having a better understanding about health and safety issues has given the team the confidence to speak up. "Before the course I would tell someone that something was broken," says Danesh. "Now I fill out the form now and tell everyone – the guard is missing here, there is no tail light on this machine."⁷

⁶ <http://www.skillshighway.govt.nz/success-stories>

⁷ Skills Highway. (2017). "Go back and do more": Skills first training at Living Earth. Accessed at <http://www.skillshighway.govt.nz/success-stories/go-back-and-do-more-skills-first-training-at-living-earth>

Changed attitudes and behaviours are shown when employees question what is happening in the workplace, engage and participate actively in health and safety in their workplaces. In some cases, this has also led to employees going on to Health and Safety committees or being prepared to take on the role of Health and Safety Rep.

The incidents were written clearly and in more concise detail, the vocabulary was fit for purpose, hazards were not only identified and recorded, they were rated and communication between staff and employers showed they were being isolated, minimised or eliminated. In several instances First Aid notebooks were up to date with inventory lists noted and Food Control Plans were beginning to take shape with accurate recordings of temperatures, cleaning plans, times etc. Best of all was the voluntary verbal reports of how safety was being improved in ways including purchasing long sleeve oven mitts, doing ladder inspections, improving signage and lighting and instructing staff on security in a more effective manner. (Hospitality)

Since they completed the Business Communications Course, every morning I am coming in to completed hazard reports. (Healthcare)

Improving digital skills and financial literacy have also been a focus in some of the programmes. The catalyst to improve digital skills usually comes about when employers introduce new technology or want to use technology for activities that were previously paper based, such as payslips, timesheets, or job reports. For most of the eight employers who included developing digital skills in their programmes this was just one part of a programme and included employees getting more familiar with computer/tablet/smart phones and the ways in which to use them.

The deliberate and time-consuming effort to integrate computers into the training was worthwhile. All participants got to register and use Pathways Awarura enabling them to 'get comfortable' with everyday technology - laptops and ipads. This has also resulted in the company being able send payslips out via email – reduces the paper work going missing. (Manufacturing)

Three participants texted in English for the first time during the programme and four participants emailed for the first time in English. Participants are now aware of their audience and purpose before writing an email and focus on the subject line, resulting in more effective emails. (Construction)

With a pilot rollout of tablet and cell phone handsets for reporting and data collection occurring on some of the sites where [the programme] was taking place, employees report that they are more confident picking up a cell phone or tablet and using them to send emails, photos and other apps such as navigation tools. "Before I didn't write in forms because I couldn't spell it and if I couldn't spell it I couldn't write... now I can use the tool (google speech spelling) to spell words which makes it easier to write." (Utilities)

One programme had improving digital skills as its entire focus. Here the employer noted a considerable difference in the behaviours of the employees after the programme. These included: answering more emails; having more detailed job comments and increasing accuracy in relation to these.

Prior to the training they were using the basic tools on their Ipad. As the course proceeded I noticed a big increase in the accuracy of recording information regarding tasks. Especially the tasks that change and extend over multiple days, and involve a mixture of codes to claim. (Infrastructure)

The downstream impact of this on the business is increasing accuracy and efficiency that has seen a reduction in administration time by up to 20 percent.

Before the programme we would not have been able to get live updates on the spreadsheets and it was a slow process of entering data from written papers, also the Operators being able to directly populate the Spreadsheet cuts down on errors. (Infrastructure)

Having improved digital skills also spills over to employees' home lives. As one employee commented, "It's making my life much easier to do some work on the computer for the kids and my own personal uses on computer like banking, mailing and search what I want to know."
(Manufacturing)

Financial literacy has been included in six programmes. It provides a suitable and meaningful context for teaching and learning numeracy. The catalyst for this has been firstly, to get employees to understand their payslips and associated budgeting. The second is to help employees do some longer-term planning around money and have less anxiety caused by money and debt. Being less stressed also helps them to come to work more often and be less stressed at work.

Financial literacy gave learners the skills and knowledge to prepare a household budget, calculate interest on debt and to manage their Kiwisaver funds. They now have the confidence to seek help from budget advice services – this was especially important at all three sites where staff confided in the tutor that they carried significant personal debt (often from third tier money lenders plus high interest- bearing credit cards). The outcomes mean that staff are not asking for payday loans from the company as they are better managing their income, and know how to access support to better manage personal debt. It also means better outcomes for the family, which positively impacts on the workplace. (Manufacturing)

Measuring specific improvements to productivity continues to be challenging given the lack of data companies keep that is directly related to the work employees do and which in turn, can be specifically attributed to programmes. However, it is likely there are links to productivity improvements from the changed behaviours and practices in relation to health and safety and problem-solving, when people engage more and speak up more at work, and when they attend work more often.

Examples of practices noted by employers that can lead to increased productivity include:

- problem-solving skills that led to a decrease in bottlenecks
- a reduction in dispatch errors and higher accuracy in stock counts.
- how learning about percentages helped employees to recognize the impact of product loss, downtime and stoppages and the subsequent impact this had on productivity
- improved understanding of workflow processes

At the Labour Exchange the HR team noticed the difference their programme, made to their employees "It's amazing to see the impact it's had on the boys. Watching them grow and develop over the course

of Better Me was awesome.” Caleb Jasmal and Courtenay Hurt-Suwan noted better engagement and communication, increased confidence, better understanding about completing time sheets, improved participation in Toolbox meetings, and more willingness from workers to work more hours.⁸

A theme to come through in these programmes is that it is not just about employees learning about how the company works and getting to know more about processes and procedures, it is also about the employees themselves coming up with solutions that improve the way work is done. An example of this is with the TROW Group.

Ngaz Edwards and his team from Hilton Civils Ltd, developed a Visual Management System (VMS). “This helped us with time management and planning,” says Ngaz “At the Monday tool box meeting, we read the plan for the week. We know and can organise where everybody and everything is and it’s easy to update. It also stops everyone coming and asking me questions all the time.” The system allows people to see what’s going on, says Ngaz, as it provides a written record of what’s happening and increases communication. “It’s been huge for the team.”⁹

The increased efficiencies brought about by more accurate and timely completion of paper work means a reduction in time the employees themselves spend on this and also means office or administration staff need to spend less time helping staff or correcting errors made by employees.

“We have a lot of paper work and some used to struggle with it,” says Tena. “It was okay when there was a form they were familiar with, but if there were any changes it was an issue. The other week one of the workers was able to fill out a completely new form.”¹⁰

Specific examples of actual changes in profitability were shown by two employers, one who reported an increase in sales and the other who provided a very specific example in the hospitality industry that related to improved profitability that occurred as a result of less wastage.

...The result in this training was a reduction in wastage of coffee [1.5 kgs per week; 77kgs (\$3,234 per year)] and also a more consistent flavour. Staff also became more confident with identifying the key variables of coffee preparation, weight in, weight out, time of extraction, and calibrating them efficiently. This also had a direct impact on the milk steaming and ability to adjust temperature in line with customer requests.

Discussion

In this section we discuss the impact of the WLN fund. This is considered across three areas:

- Is the WLN Fund reaching employees and industries where there is evidence of low levels of literacy and numeracy?
- Is the WLN Fund reaching areas of the labour market where growth is predicted?
- Is the WLN Fund tackling areas of demand that are created by new technology or other areas that impact on productivity?

⁸ Skills Highway. (2017). *The Labour Exchange celebrates its 'Better Me' graduates*. Accessed at <http://www.skillshighway.govt.nz/success-stories/the-labour-exchange-celebrates-its-better-me-graduates>

⁹ Skills Highway. (2017). *TROW Group – improving how the work gets done*. Accessed at <http://www.skillshighway.govt.nz/success-stories/trow-group—improving-how-the-work-gets-done>

¹⁰ Skills Highway. (2017). *“Go back and do more”: Skills first training at Living Earth*. Accessed at <http://www.skillshighway.govt.nz/success-stories/go-back-and-do-more-skills-first-training-at-living-earth>

Reaching employees and industries with low levels of literacy and numeracy

So, is the WLN fund getting to employees and industries with the highest need? That is, the people and industries that are shown in the Survey of Adult Skills (PIAAC) to have low levels of literacy, numeracy and problem solving skills. The short answer is 'yes'.

Analysis of the PIAAC data¹¹ by ethnicity show Māori, Pasifika and Asian populations have the lowest levels of literacy, numeracy and problem-solving in technology rich environments. Fifty-nine percent of employees in TEO-led programme come from these three groups and in the EWLN strand, 51 percent do.

The PIAAC data by industry show that those working in construction; agriculture, forestry and fishing; accommodation and food services; manufacturing; transport, postal and warehousing; electricity, gas, water and waste services; and administration and support services have the lowest average levels of literacy and numeracy with average scores at the top of level 2. The data from the WLN fund, as shown in Figure Two, show that WLN funding is concentrated on employees from the manufacturing, health and social assistance and retail trade sectors, suggesting at least a partial fit with areas of greatest need. Lack of provision in the primary and construction sectors, however, suggests that these areas are currently underserved and this could warrant further investigation.

The Labour Market

Along with looking at where delivery has happened, to help inform decisions notice needs to be taken of where employment growth is going to come from. The Ministry of Business, Innovation and Employment (MBIE), *Short-term Employment Forecasts: 2017-2020*¹² states employment will continue to grow for the next two to three years. The strongest growth is expected in construction and utility services where there will be a demand for professionals, technicians, trade workers and labourers. The demand will be in the regions where there will be growth in residential investment, particularly Auckland.

Growth is also expected in the businesses services sector where there will be a demand for highly skilled professionals. In health and education rising demand will come from an increasing need for childcare and aged care.

The demand for skilled workers will peak in 2018, with the fastest growth coming for glaziers, plasterers, tilers, plumbers and electricians. Nearly 30 percent of the employment growth will happen for low skilled workers where the demand will be strongest for construction and mining labourers, prison and security officers, and office and practice managers.

As discussed above, the data from the WLN fund show that WLN funding is concentrated on employees from the manufacturing, health and social assistance and retail trade sectors. In 2017, however, the fund is not getting to the construction sector to the extent it might. This is a cause for concern given the current demand for skilled workers in this industry and because it is forecast to be

¹¹ Ministry of Education & Ministry of Business, Innovation and Employment. (2016). *Skills at work*. Wellington: Author.

¹² Accessed at <http://www.mbie.govt.nz/info-services/employment-skills/labour-market-reports/forecasting/short-term-employment-forecasts/short-term-employment-forecasts-2017-2020-may-2017/document-image-library/short-term-employment-forecast-2017-2020-may-2017.pdf>

one of the growth areas across 2017-2020. While the health and social assistance sector is not identified in PIAAC as being high need, high delivery in this sector is positive given the growth predicted in this sector.

Some of the thinking behind the upskilling of lower-skilled workers is that it future proofs them for downturns in the labour market. From a pure employment perspective the current market is upbeat with the first quarter of 2018 showing an unemployment rate of 4.4 percent. On the one hand this looks like a positive statistic given this is a nine-year low. However it does not count those who have given up looking for work or have not applied for anything in the previous month. In turn this is coupled with the underutilisation rate, which sat at 11.9 percent.¹³

While the employment market is buoyant there has been increasing recognition of the 'working poor'. Recent research¹⁴ highlights factors associated low pay and reports that it is correlated with,

“being female, working part-time, aged 20-29 years or over 65 years, holding low level of educational attainment, and being non-European. Furthermore, data reveal that labourers, community and personal service workers and sales dominate the low paid. There is also a noticeable variation across the country in terms of regional differences in low pay prevalence, with no indications of a strong correlation between prevalence and level of regional development.” (p.2)

While we do not know the pay rates of employees on WLN programmes we can assume, given the research cited above, that it is at the low end of the scale. It would seem unlikely that participating in a WLN programme alone would directly lead to a pay rise. However, we do know that as a result of the programme some employees move on to roles with more valuable tasks, higher level roles (such as team leaders and supervisors) and to further education including industry training and this does lead to pay rises.

Importance of Digital Skills and Financial Literacy

The increased focus on digital skills is timely. National and international research shows that digital skills are essential for people to participate in learning, life and work.¹⁵ The most recent PIAAC results show that on the one hand New Zealand has the largest proportion (45 percent) of people with high Problem Solving in Technology Rich Environments (PS-TRE) skills, but has 55 percent with the lowest skills. This means they:

- could not adequately use the computer to complete the survey or chose not to
- can do basic tasks using single functions
- can do simple tasks on standard applications such as filing emails.¹⁶

Seven of the 11 industry groups covered in PIAAC have at least half of their workforce made up of people with low problem-solving skills (level 1 or below). For example, 64 percent of workers in the

¹³ <https://www.stuff.co.nz/business/103553800/jobless-rate-falls-to-the-lowest-level-in-nearly-a-decade>

¹⁴ Cochrane, B., Fletcher, M., Pacheco, G. & Plum, A. (2018). *Low pay in NZ*. Auckland: New Zealand Work Research Institute.

¹⁵ The Learning Wave & Alkema, A. (2018). *A draft framework for digital literacy. A discussion paper*. Wellington: Skills Highway.

¹⁶ Ministry of Education and Ministry of Business, Innovation & Employment. (2016). *Skills in New Zealand and around the world*. Wellington: Author

utilities and construction sector and 63 percent of workers in the primary sector have low problem-solving skills. This includes the industries that are covered by the WLN fund, namely, accommodation and food services, retail, healthcare, manufacturing and construction. PIAAC also identifies that people in low-skilled occupations have lower problem-solving skills with machinery operators and labours having the lowest skills.¹⁷ People with these types of roles are in programmes funded through WLN.

Recent New Zealand research¹⁸ suggests that families with children in low socio-economic communities, and migrants and refugees with English as a second language are included in those most at risk of being digitally excluded. As the data in this report show, these groups are represented in workplace literacy programmes.

The examples earlier in this report show the types of things employees are learning and then applying in workplaces and in their family and community lives. While it will not reduce the numbers of those who are denied access because they cannot afford to access the internet or to buy devices for their children to use at school, it has led to a reduction in the numbers of those who are digitally disadvantaged in workplaces.

Research also shows that the focus being given to financial literacy is not misplaced. Recent research on financial wellbeing found that worrying about money affects people's ability to think straight and that women, and Māori and Pasifika, were more likely to be distracted by financial concerns while they were at work. Those who said their financial situation was serious spent time at work dealing with it.¹⁹

An analysis of financial activities collected in PIAAC shows that people are less likely to conduct financial activities at work than in their everyday lives. However, the analysis shows that the demographic who are reached in WLN funded programmes are likely to need upskilling in relation to financial literacy given that:

- infrequent participation in everyday financial literacy activities is associated with low skills, particularly in numeracy
- women are more likely than men to undertake financial literacy activities yet they have, on average, lower numeracy skills than men
- people calculating prices, costs and budget more often appears to be associated with more limited earnings, but less likely if they have low education
- Māori, Pasifika and Asian are more likely to calculate prices and costs in everyday life than New Zealand Europeans
- Māori and Pasifika are less likely to conduct internet transactions than New Zealand Europeans and Asians.²⁰

¹⁷ Ministry of Education & Ministry of Business, Innovation and Employment. (2016). *Skills at work*. Wellington: Author.

¹⁸ Digital Inclusion Research Group. (2017). *Digital New Zealanders: the pulse of our nation: a report to MBIE and DIA May 2017*. Accessed at <http://www.mbie.govt.nz/info-services/digital-economy/documents-and-images/digital-new-zealanders-the-pulse-of-our-nation-may-2017.pdf>

¹⁹ Edmund, S. (3 March 2018). *Money stress tough on mental health*. Wellington: Dominion Post

²⁰ Satherley, P. (2017). *Adult's financial literacy activities: Survey of adult skills*. Wellington: Ministry of Education.

The impact of including financial literacy in programmes is shown earlier in this report. While for the most part it does not directly relate to employees' workplace activities, it does impact on their wellbeing, which in turn means they are less stressed and better able to concentrate while they are at work.

Productivity

The challenge in this work is to measure productivity gains based on increasing the skill levels of employees. While research shows skills are positively associated productivity it also shows that it is difficult to measure. It is also not possible to say that raising skills by x amount will mean that productivity will increase by y amount.²¹ An additional issue with measurement is that there may not be a direct correlation between levels of input to levels of output and often there are multiple inputs required to produce multiple outputs.²² Given this, it is time to think more widely about what productivity is and what it is that makes workplaces productive.

Employment New Zealand states that

A productive workplace starts with a positive culture where employers and employees work together to achieve good work and make continual improvements.²³

What the employers' reports show is that in companies where workplace programmes go to scale, where management is engaged with learning and see the benefits of training for their workers, they are on their way to being more productive workplaces.

Conclusion

As in previous years, the quantitative and qualitative data show funded programmes are reaching those identified in PIAAC as having the lowest skills – by industry and demographic. The extent to which there has been proficiency gain in literacy and numeracy is still difficult to determine as are exact changes to productivity. However, what continues to be shown is the changed behaviours of employees that take place as a result of them being more confident and competent. This means they are better able to do their jobs and ready to consider progression to high level roles. In addition, the result of improved engagement and participation in work leads to improved workplace culture. The overall impact makes these businesses safer and better places to work.

These findings align with the recently released framework that looks at measures for the return on investment from TVET.²⁴ This framework suggests three levels of measurement.

- At the **individual employee** level and the impact of training on, e.g., workplace knowledge and skills, employment status; and on non work-related factors related to their wellbeing

²¹ Gambin, L, Green, A & Hogarth, T. (2009). *Exploring the links between skills and productivity: Final report*. Coventry: University of Warwick.

²² Jaffe, A., Le, T. & Chappel, N. (2016). *Productivity distribution and drivers of productivity growth in the construction industry*. Wellington: BRANZ.

²³ Employment New Zealand. Accessed at <https://www.employment.govt.nz/workplace-policies/productive-workplaces/>

²⁴ Schueler, J., Stanwick, J. & Loveder, P. (2017). *A framework to better measure the return on investment from TVET*. Adelaide: NCVER.

(confidence, self-esteem, life/work satisfaction), literacy and numeracy skills, and wider social / community participation.

- At the **business level** and the impact of training on the firm's productivity, profitability, (e.g., increased sales, reduced waste, reduced supervision time), improvement in quality of products or services, better or more innovative use of resources. And on the ways in which employees, e.g., engage at work, experience safer workplaces, and have less stress at work.
- At the **economy level** on, e.g., labour market participation, employment rates, earnings; and on social equity, social cohesion and social capital.

Work to date on the benefits and impact of workplace literacy and numeracy programmes has focused on the extent to which there may (or may not) have been literacy and numeracy proficiency gain, the changes in workplace practices and the extent to which these may (or may not) have impacted on productivity. In 2018, given the widening scope of what is delivered in these programmes is it time to widen the thinking on outcomes, broaden the definition of what comes under the banner of literacy and numeracy, and develop a more inclusive definition of workplace productivity? The framework outlined above can serve as a useful tool to guide this work.