



Post School Education and Training (PSET)
Tracer Survey of 2009, 2010 and 2011
Technical and Vocational Education and
Training (TVET) Graduates.

Samoa Qualifications Authority

January 2014

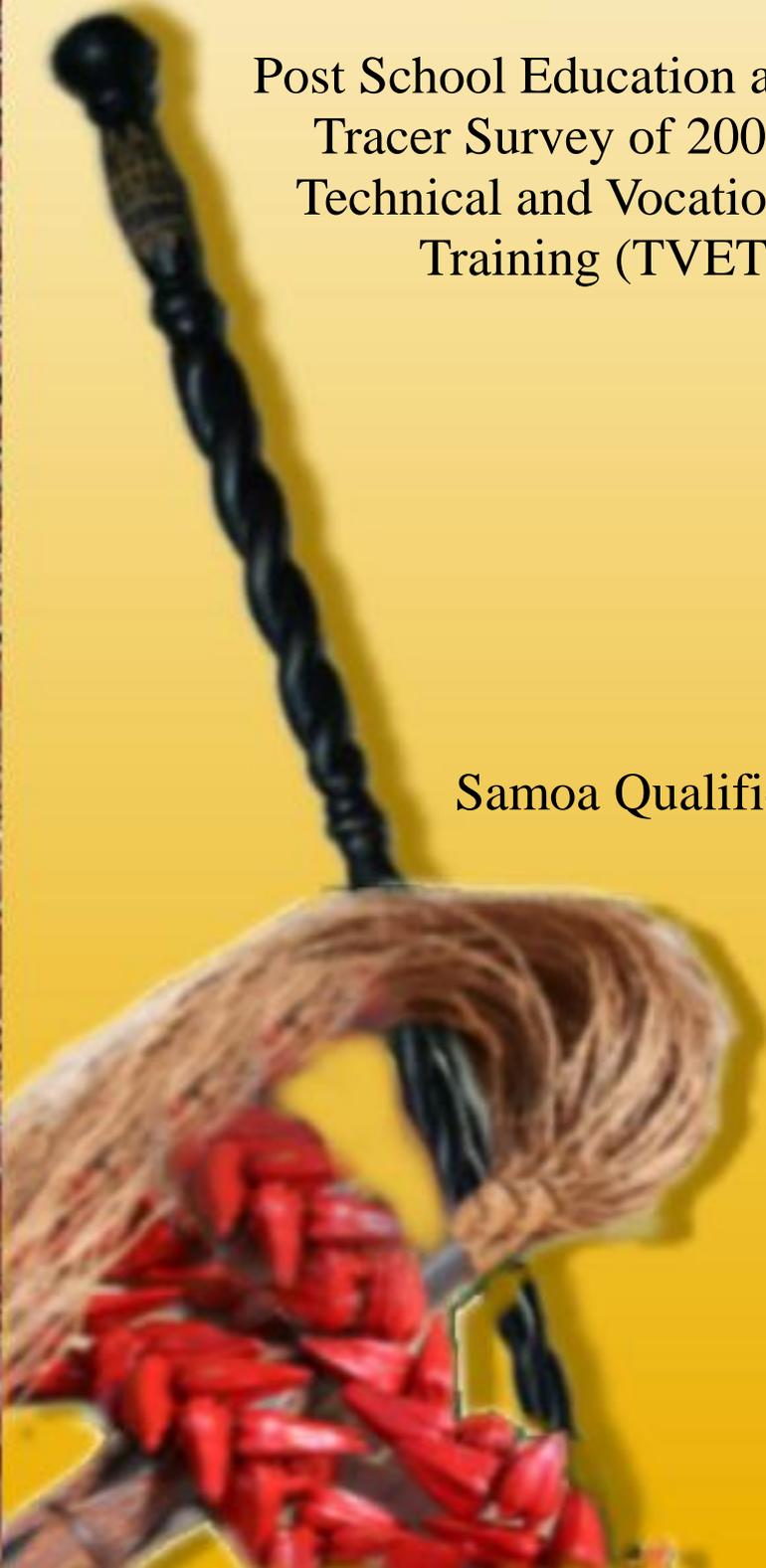


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ACRONYMS

AIOT	Apia Institute of Office Technology
APTC	Australia Pacific Technical College
AUA	Apia Urban Area
DBTC	Don Bosco Technical Centre
ISCO	International Standard Classification of Occupations
LFSFA	Leulumoega Fou School of Fine Arts
LPTC	Laumua o Punaoa Technical Centre
NCECES	National Council for Early Childhood Education in Samoa
NUS	National University of Samoa
NWU	North West Upolu
OECD	Organisation for Economic Cooperation and Development
PSET	Post School Education and Training
ROU	Rest of Upolu
RPPD	Research, Policy and Planning Division
SQA	Samoa Qualifications Authority
SSS	Samoa Shipping Services
TIAS	Tesese Institute of Administrative Studies
TVET	Technical and Vocational Education and Training
USP	University of the South Pacific
UVTC	Uesiliana Vocational and Technical Centre

EXECUTIVE SUMMARY

A national tracer survey of 2009, 2010 and 2011 Post School Education and Training (PSET) graduates in Technical and Vocational Education and Training (TVET) was conducted in July and August 2013. The survey achieved a 52 percent response rate of 1555 graduates surveyed. Few responses, however, were received from those working overseas so the graduates the survey reports on are those who are resident in Samoa.

The survey objectives were to find out about how graduates were faring in the labour market, graduates views on the relevance of the education and training they received in the light of their work experiences; and to identify what factors could help explain why some graduates had not found work.

The survey gathered information on three sets of outcomes for graduates related to the objectives of the study. The first set of outcomes focused on the employment-related outcomes of the specific qualifications of graduates. These outcomes mainly related to whether they were in paid employment, type of employment they had, their wage or income, and whether their job matched the skills they had acquired in their training.

Second, information was sought on the graduates' own assessment of different aspects of the training they had received. Third, respondents were invited to offer in their own words details of what skills and knowledge they had gained and not gained in their training based on the main activities they are doing now. Respondents were also asked to offer any suggestions for improving the training they had received.

Key findings on employment and related outcomes

Just over half of the graduates who responded to the survey are working for pay for an employer (56 percent). Another 3 percent are self-employed or running their own businesses. Very few are mainly producing food for sale, their own use or do unpaid work in the family business. The largest group not in paid work (18 per cent) are doing unpaid work as a volunteer or are doing housework. Only 5 percent of all respondents are actively looking for a job. A large group of graduates (14 percent of respondents) are doing further study. However, the current students are mostly holders of the certificate in pre-trade life skills.

The number of certificate holders who responded was 528, diploma holders 195, and the number of intermediate certificate holders was 74. Of the certificate holders, half (49 percent) were in paid work for an employer. Of the intermediate certificate holders, 60 percent were in paid work for an employer. The best employment result was achieved for the diploma holders, with three in four (75 percent) in paid work for an employer.

Women graduates are more likely to be working for an employer and less likely to be a current student. Most graduates like to have paid work and hence like their job. However, only one-in-ten (9 percent) said that their job offered them the chance to improve my skills. One-in-six (14 percent) wanted another job in the future and another one-in-ten wanted to improve their skills.

The trade certificate holders earned the highest average income, followed by diploma holders, and certificate holders. The lowest average income is earned by the small number of the certificate in pre-trade life skills who were able to find work. Male and female graduates at

both the certificate and diploma level were paid on average different incomes. For diploma graduates, males earned an average of \$314 a week and female graduates at the same level earned \$282 a week. At the certificate level, male graduates earned \$259 and female graduates earned \$232 a week.

The worst performing qualification in terms of leading to job with an employer is the certificate in pre-trade life skills. The graduates with this qualification have only 12 percent in paid work with an employer of the 90 graduates surveyed. As noted above, its employed graduates also have the third lowest average income of \$185 per week.

The next lowest employment outcomes are for the certificate of achievement in food and textiles technology, the diploma in fine arts and the certificate in fine arts, all with only a quarter of these graduates in paid work with an employer. Employed graduates with a diploma or certificate in fine arts are earning on average the second lowest average of \$165. The employed graduates of the certificate of achievement in food and textiles technology earn \$229 a week.

In terms of high rates of paid work, all graduates of the diploma in media and journalism who were surveyed are employed and earned the second highest weekly pay (\$316). However, those graduates in the diploma in media and journalism who responded number just under half of the total number of graduates (19) with this diploma. It is likely that a full count of all graduates of this diploma would reveal a lower employment rate.

Other qualifications with high paid employment rates are: the diploma in office management or document production; the diploma in office administration management; computing skills, info management, education assessment; the certificate of achievement in master class 5 nautical or maritime training; and the certificate in computer operating.

The qualifications with higher than average pay are also the qualifications with high employment rates. These are the diploma in business; the diploma in media and journalism, as noted above, the diploma in office administration management; certificate in nautical training, and the certificate of achievement in computer studies, & office administration management. However, the relationship between employment rate and pay level does not always hold. The employment rate for holders of the certificate of early childhood education is high at 65 percent but the average weekly pay is the lowest of all graduates at \$159.

Specific qualifications that performed poorly in terms of employment outcomes and average weekly pay are:

- Certificate holders in Tourism and Hospitality – various with only 45 percent in paid work with an average weekly pay rate of \$212;
- Certificate holders in Automotive Engineering, Panel Beating, Spray Painting with 52 percent in paid work and an average weekly pay rate of \$235; and
- Intermediate Certificate holders in Building & Engineering Trades has 59 percent in paid work with an average weekly pay rate of \$264

Key findings on graduates assessment of their training

In general, graduates rated many aspects of their training highly positively. This applies particularly to the summary statement: ‘overall I am happy with the way training was run’. However, lower ratings were given by graduates in work to the following statements:

- Work experience was an important part of the training I received
- Access to equipment or tools during my training was good
- Access to textbooks or support materials during my training was good
- The practical component of the program was relevant to my job now

In particular, lower ratings of agreement were given to the following statements

- My teacher or Institute arranged for me to get work experience during my training
- My teacher or Institute helped me to find work.

As many as three-in-five graduates not in work (61 percent) strongly disagreed, disagreed or were neutral in their assessment that their teacher or Institute helped me to find work. Aspects of work experience also were rated by graduates not in work lower than other statements were the statement: ‘my teacher or Institute arranged for me to get work experience’ and that ‘work experience was an important part of the training I received’.

Work experience had a major impact on a graduate’s chances of getting a job. As many as one-in-four graduates now in work said they were working with the same employer with whom they had placed for their work experience. This applied not only to the trade certificates based on apprenticeships with employers but also to other qualifications.

Key findings on graduate feedback on skills learnt and not learnt

Graduates were asked to say what skills they had learnt that was useful in their work. A number of generic skills were identified. In order of importance, these were: customer service, office administration, followed by management skills and time management and marketing.

Of the skills that graduates said they had not learnt, technical skills is by far the largest category. This information can be made available to PSET (TVET) providers on request to the SQA. In terms of generic skills, communication was the most important set of skills in which graduates said they had not received enough training. This was followed in importance by computing skills, customer service, management and office administration skills.

Graduates were also invited to offer ‘suggestions for improving the training you received’ and could offer up to three suggestions. Most graduates took the opportunity to offer their comments. The most important group of suggestions made for improvement (54 percent of all suggestions) related to the need for more or better resources for the Institutes providing the training. Specific comments included: ‘not enough tools and equipment for students practical work’, ‘not enough textbooks’, and ‘not enough computers for students to use’.

The issue of the need for more qualified and committed teachers was the subject of 15 percent of the suggestions made. A large subgroup of responses was more critical of teachers.

Two in five of these responses highlighted the problem of teachers showing a lack of personal commitment or being non supportive. Examples of specific complaints made were: ‘teachers are mostly late to classes’, ‘teachers were absent from classes’, ‘teachers did not spend enough time with students to assist with their learning’, ‘teachers focused on other commitments rather than on teaching the course’, and ‘teachers showed lack of experience and knowledge in teaching computing’.

The need for more or better conducted practical exercises accounted for 13 percent of the suggestions. The comments mostly related to not having enough time for practical exercises as in this comment: ‘There were not enough practical activities, but too much theory’.

The issue of fees was the basis of 5 percent of suggestions. Half of these comments referred to the fees being too expensive. Other comments on fees related to a different fee structure to promote better access: ‘consider lowering school fees to ensure [better] access’, and ‘school [should] provide other means of financial assistance for students' course fees’.

Recommendations

This report concludes with a discussion of the findings and the lessons to be drawn from the analysis of the results. Eight specific recommendations are made based on these findings. In summary form, they are reproduced below.

Recommendation 1: It is recommended that SQA ask PSET providers offering qualifications with low employment outcomes to show cause as to whether offering these qualifications are justified at all or on a smaller or less frequent scale they are being offered at present.

Recommendation 2: Providers offering qualifications with a specific sector focus need to also to provide evidence to employers that these qualifications are also providing generic competencies that can be applied in other work settings as well. It is recommended that the SQA ensure that key competencies related to employability are incorporated into the competency profile of sector specific qualifications.

Recommendation 3: PSET providers can improve the employment outcomes of their graduates by ensuring that they have relevant work experience with employers. It is recommended that SQA develop and promote a good practice guide to PSET providers and to the public about the benefits of work placements.

Recommendation 4: SQA should prepare a short guide to show the government and the community which training providers are delivering value for money and how the results of the tracer survey have resulted in changes in the frequency and quality of the training that PSET providers deliver.

Recommendation 5: It is recommended that SQA include in the information provided in its career advisory services data on the employment outcomes of specific qualifications, whether the employment was matched to the skills imparted by the training and the wages earned by graduates in specific occupations.

Recommendation 6: It is recommended that the SQA also include a request for other related information and that a template of key questions be developed and circulated to all providers.

Recommendation 7: It is recommended that the SQA encourage and support PSET providers to conduct their own tracer survey for each qualification they offer within six to nine months after graduation. It is also proposed that SQA promote the use of a simple, low cost methodology, as outlined in the SQA tracer survey training manual.

Recommendation 8: The SQA needs to conduct a national tracer survey every three years to cross check the information that training providers are reporting on an annual basis and to carry out more complex analysis of the labour market outcomes.

1. INTRODUCTION

Graduate destination surveys, referred to in this report as tracer surveys, are a key source of evidence about the effectiveness of Post School Education and Training (PSET). Governments, communities, parents and graduates want to know whether their investment is giving the returns they are expecting.

The Samoa Qualifications Authority (SQA), in particular, has its mandate to improve the quality of the training provided by accredited PSET providers. Accreditation procedures are moving to a greater emphasis on the outcomes graduates have achieved. It is likely that in the future, PSET providers will need to show each year that they have information about employment outcomes of graduates and their assessment of the relevance of the training they have received. They will also need to show they are using this information to improve what they are doing.

Tracer surveys for the PSET providers are an important source of feedback about the value of the qualification they are offering. Have their graduates found work, and if so, does the job match the skills they acquired. Tracer surveys also give good feedback to PSET providers on the graduates' assessments of the relevance in their new job of the training they have received.

For the users of the training system such as prospective students, parents and career counsellors, tracer surveys conducted at a national level are an invaluable source of reliable information on the job prospects and pay rates of recent graduates with specific qualifications. Tracer surveys also help prospective students to make an informed choice about which training providers offering similar qualifications produce better employment outcomes.

Part of the mandate of SQA is to ensure that the PSET system meets agreed quality standards. An independent national tracer survey is needed to cross check the annual information PSET providers should be collecting on graduate outcomes. A national survey of graduates is also an opportunity to conduct a more comprehensive analysis of their labour market outcomes. This can be done by collecting information about how graduates have fared in the labour market over a longer time period. Many graduates will also have greater work experience and can offer more substantial assessments of the value of the skills training they have received.

The survey objectives

The three main of the survey were:

- Identify the employment status of formal PSET (TVET) graduates of 2009, 2010 and 2011;
- Assess whether education & training is relevant to the skill needs & requirements of their employment; and
- Determine factors of why some graduates are not finding employment.

The target population

An initial list of over 6,000 PSET graduates was compiled from a request by SQA to all of its listed and registered PSET providers. The contact information supplied was not reliable for most graduates. This factor and the need to focus available resources to collect enough information on specific qualifications, SQA decided to focus in on Technical and Vocational Education and Training (TVET) graduates. Some 411 Australia Pacific Technical College (APTC) graduates were excluded from the survey because they are being surveyed independently by APTC. Another important factor was that the APTC data on their graduates did not have any contact details.

This reduced the number of graduates to survey to 1,555. Due to the large number of TVET qualifications, many of which had only a small number of graduates, it was decided to survey all TVET graduates to ensure that accurate information could be provided about all qualifications and PSET providers.

Timing of the survey

The questionnaire was developed by an international consultant working together with the RPPD, Dr Richard Curtain, based on surveys he had conducted in the Federated States of Micronesia, Republic of Marshall Islands and Tuvalu. SQA staff reviewed a number of drafts of the questionnaire and translated it into Samoan.

The survey was carried out by 18 field work assistants and 4 SQA RPPD staff conducting face-to-face interviews. They undertook two days of training, pilot testing the questionnaire and conducting mock interviews. The fieldwork for the survey was carried out by the field work assistants and the SQA RPPD staff in Upolu between 22 July and 04 August, under the supervision of international consultant, Mrs Meleoni Uera who had supervised the same type of survey in Tonga in 2011. The fieldwork in Savaii was carried out between August 12 to 16 by the RPPD staff and supervised by the RPPD Assistant Chief Executive Officer. The field work assistants were not involved given the small number of graduates based in Savaii.

Questionnaire

The questionnaire was designed to gather information on three sets of outcomes for graduates related to the objectives of the study. The first set of outcomes focused on the employment-related outcomes of the specific qualifications of graduates. These outcomes mainly related to whether in paid employment, type of employment, wage or income, and the job/skills match.

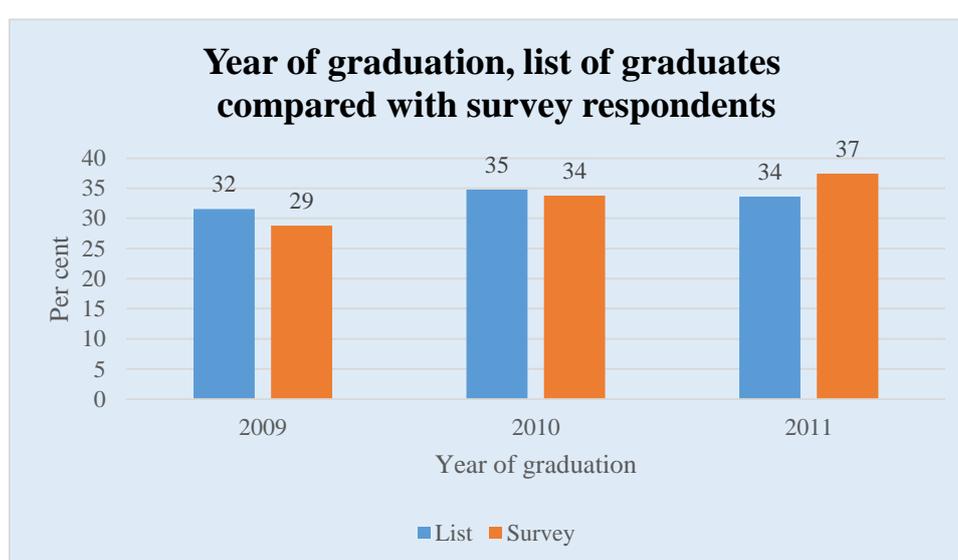
Second, information was sought on the graduates' own assessment of different aspects of the training they received. Third, respondents were invited to offer in their own words details of what skills and knowledge they had gained and not gained in their training based on the main activities they are doing now. Respondents were also asked to offer any suggestions for improving the training they had received. These three sets of outcomes were designed to be used to explain the differences between graduates in employment and those unable to find paid work.

Response rate

The overall response rate was 51.6 percent. This response rate begs the question of whether the non-respondents are different in terms of key outcomes the survey is collecting information on.

A comparison between the survey responses and the initial list of graduates on two key variables, year of graduation and qualification, showed some important differences. For year of graduation, the respondents are slightly more likely to be more recent graduates, with 2011 graduates slightly over-represented and 2009 slightly under-represented.

Figure 1: Comparison of year of graduation, survey respondents & initial list of TVET graduates, percent



A detailed comparison of the response rate by qualification and PSET provider shows a considerable variation. Annex 1 shows a range of response rates by qualification from 100 percent to zero response. The qualifications with the larger number of graduates varied from 86 percent for certificate in office skills and computing (TIAS) to 22 percent for the certificate of achievement in computer studies (LPTC). Only one respondent from UTVC was surveyed, as the contact information provided was limited to the graduates' names only. Without information about the graduate's home village, it was impossible to find out how to make contact. The sole respondent was identified during the fieldwork in Upolu.

Notably missing from the survey are graduates who are living overseas or who are working as seafarers for some of the international Shipping Companies coordinated through the Samoa Shipping Services (SSS). Only four graduates working overseas responded to the survey, despite efforts to make contact by email where an email address was available.¹ At least 137 graduates were identified in list of graduates as living overseas. The main countries where graduates are living are 111 in New Zealand, 12 in Australia, and 11 in American

¹ Only one response was received from overseas. Three responses were received from graduates at home on leave from their work overseas.

Samoa.

Of the 77 graduates listed as working for the Samoa Shipping Corporation (SSC), only 18 graduates were interviewed, a 23 percent response rate. This low representation of seafarers is shown in the response rate for the certificate in maritime training (nautical) which was 29 percent. However, for the certificate of marine training (marine engineering) none of the 38 graduates who completed the qualification between 2009 and 2011 could be contacted.

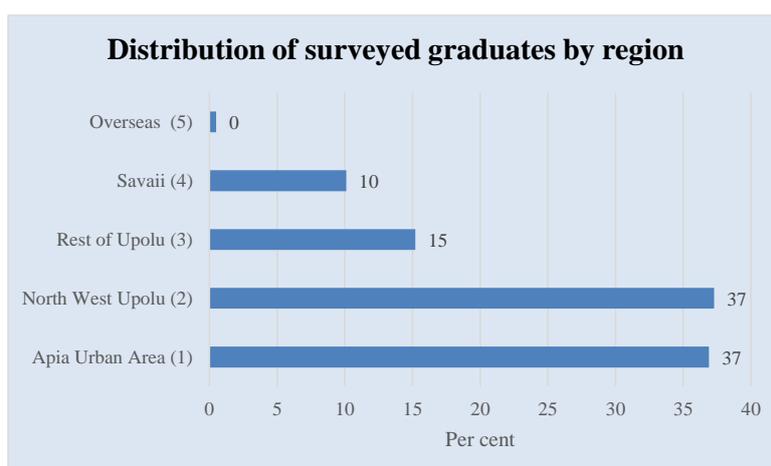
The under-representation of graduates living overseas or working for the international Shipping Companies means that the domestic employment rate does not reflect the employment rate of all graduates. As most graduates living overseas are likely to be working as the graduates working for the international Shipping Companies are, the overall graduate employment will be higher than the rate reported in the survey.

However, on the other hand, other graduates who could not be contacted may be more difficult to contact because they are not in paid work. The failure to achieve a higher response rate leaves open the question of whether the results reported below are an accurate picture of all graduates. Better contact information in the future will help to ensure that a higher response rate is achieved.

Profile of the respondents

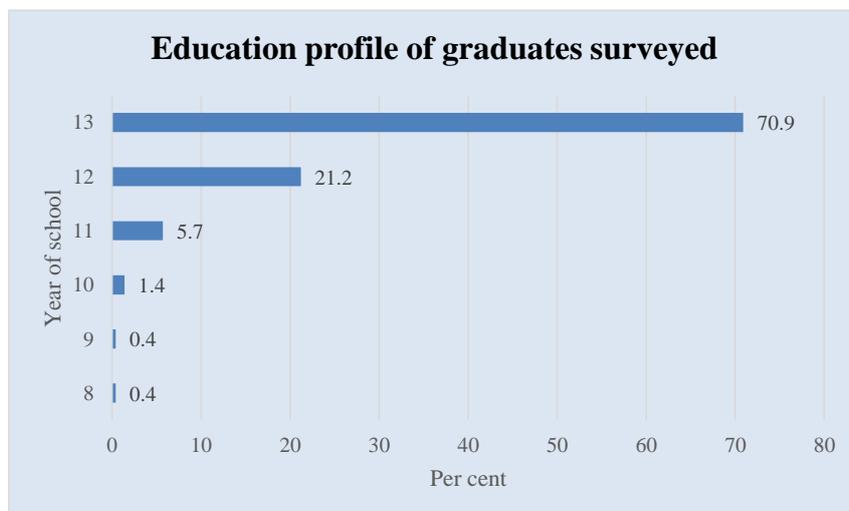
Of the 802 respondents, 60 percent are men and 40 percent are women. The average mean age of the respondents is 23.6 years, and the median age is very similar, 23 years. The age range is from 18 to 52 years of age. The average mean age for men is 23.1 years and for women it is 24.3 years. Seven out of ten graduates (71 percent) who responded to the survey have completed Year 13 and one-in-five (21 percent) have completed Year 12. Only 6 percent have completed Year 11. Only 8 graduates or 1 percent of the total number surveyed have a disability.

Figure 2: Geographical distribution of survey respondents by region in Samoa



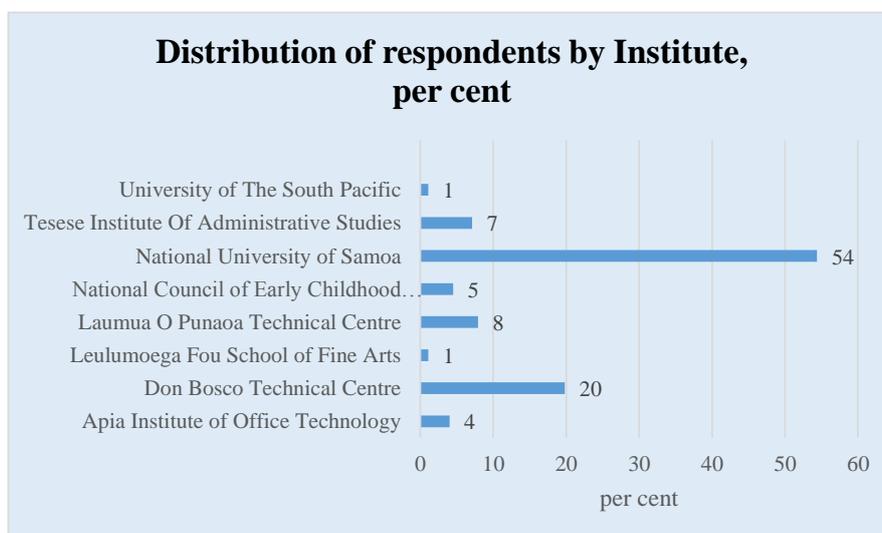
Over a third of the survey (37 percent) come from villages in the Apia Urban Area (AUA), another similar proportion come from North West Upolu (NWU), 15 percent from the Rest of Upolu (ROU) and 10 percent from Savaii.

Figure 3: the Number of PSET graduates surveyed by year of secondary education completed



The largest proportion of respondents are from the National University of Samoa (NUS) (54 percent), followed by Don Bosco Technical Centre (DBTC) (20 percent).

Figure 4: Distribution graduates of each PSET Institute who responded to the survey



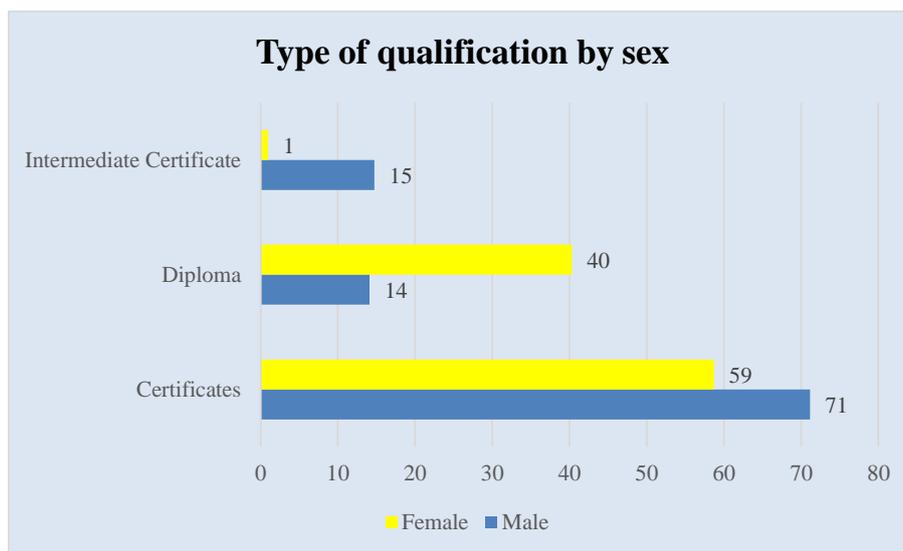
The qualifications involved programmes durations of one and two years although some took a longer time to complete their studies. A third of the qualifications took a year to complete and over half (55 percent) took two years to complete. Certificate holders account for near to two-in-three of the qualifications, Diplomas one-in-four and Intermediate Certificate one in ten of the qualifications of graduates.

Figure 5: Distribution of qualifications by broad type, percent



Major differences exist between men and women in terms of the type of qualification they have undertaken. The biggest difference is for Diplomas and Intermediate Certificates. As many as 40 percent of women graduates have a Diploma but only 14 percent of men do. In contrast, 15 percent of men have an intermediate certificate but only one percent of women do. Men are more likely to hold a Certificate compared with women (71 compared with 59 percent). In relation to trade training program at the NUS, only one female student was enrolled for the three years surveyed.

Figure 5: Distribution of qualification held by males & females, percent



Annex 2 of this report shows the female to male balance for the main qualifications. The following qualifications have 80 percent or more of their surveyed graduates who are women:

- Certificate of Achievement in Food & Textiles Technology
- Certificate of Achievement in Computer Studies

- Certificate in Office Administration
- Certificate in Office Administration & Document Production
- Diploma in Tourism
- Certificate in Office Skills & Computing
- Diploma in Office Administration & Computing Skills
- Diploma in Office Management Diploma in Office Administration

The main qualifications where men dominate are:

- Certificate in Maritime Training (Nautical)
- Certificate in Motor Mechanics
- Intermediate Certificate in Automotive Engineering
- Certificate in Carpentry & Joinery
- Diploma in Radio & Electronics

2. KEY FINDINGS

Employment outcome: overview

Just over half of the graduates who responded to the survey are working for pay for an employer (56 percent). Another 3 percent are self-employed or running their own businesses. Very few are mainly producing food for sale, their own use or do unpaid work in the family business. The largest group not in paid work (18 per cent) are doing unpaid work as a volunteer or are doing housework. Only 5 percent of all respondents are actively looking for a job. A large group of graduates (14 percent of respondents) are doing further study. However, as we will see below, the current students are mostly holders of the certificate in pre-trade life skills.

Figure 6: Main activities of graduates, percent

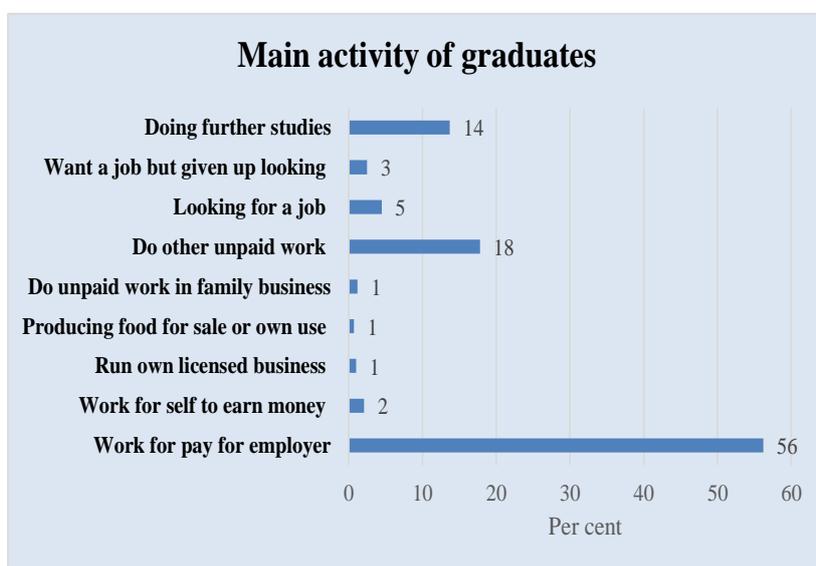


Figure 7: Main activities of male & female graduates, percent

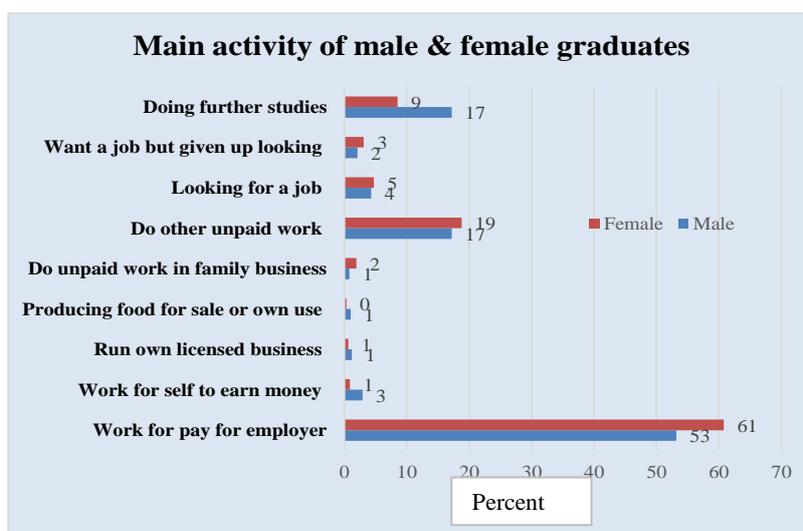
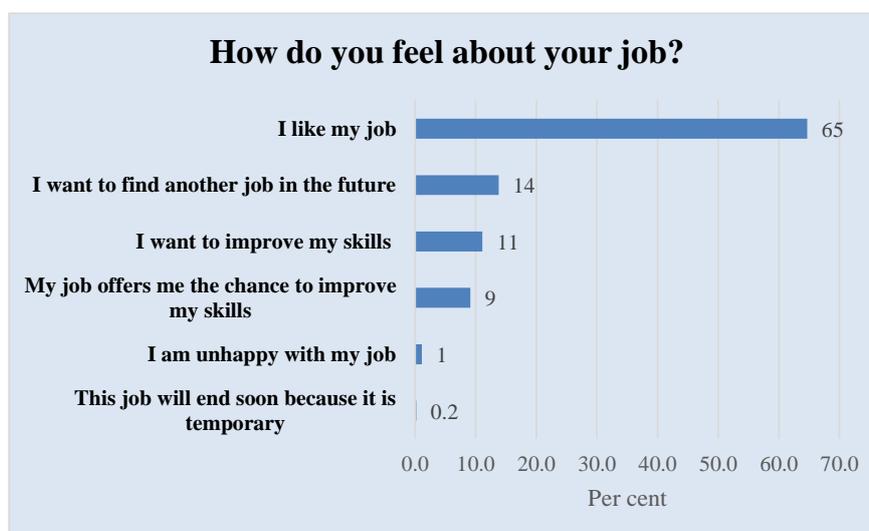


Figure 8: Graduates in paid work, responses to the question: ‘How do you feel about your job?’ percent



Women graduates are more likely to be working for an employer and less likely to be a current student. Otherwise the differences between male and female graduates in their main activity are not notable.

Most graduates like to have paid work and hence like their job. However, only one-in-ten (9 percent) said that their job offered them the chance to improve my skills. One-in-six (14 percent) wanted another job in the future and another one-in-ten wanted to improve their skills.

Time in paid work

The median average time in paid work is 18 months. Graduates took an average of 2.8 months to find the job they have. They work a median average of 40 hours a week but with a range from 6 hours to 86 hours a week. Their median average income per week is \$ 230 per week before tax is taken out. The average mean income of \$286 is affected by the four overseas workers, three of whom are seafarers. Hourly rate for those on 40 hours a week is \$ 6.90 per hour. However, the hourly rate for those working more than 40 hours and less than 75 hours is lower at \$ 4.90 per hour. The hourly rate for the three seafarers, assuming 80 hours on duty is \$USD 14.60.

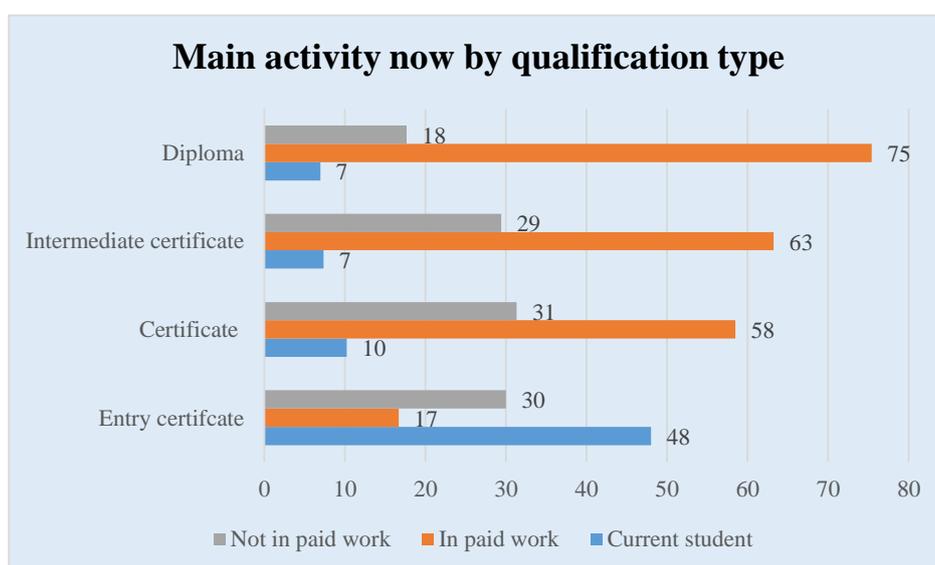
2.1 First outcome: qualifications and employment outcomes

The number of Certificate holders is 528, Diploma holders 195, and the number of Intermediate Certificate holders is 74. Looking at the employment outcomes of these three groups, there are clear differences. Of the 528 certificate holders, half (49 percent) are in paid work for an employer. Of the 74 Intermediate Certificate holders, 60 percent are in paid work for an employer. However, of the 195 Diploma holders, three in four (75 percent) are in paid work for an employer. Paid work includes not only employees but also those who are self-employed or running their own business.

However, it is clear from further analysis that not all Certificates are the same. The Certificate in Pre-Trade Life Skills is obviously a qualification that provides for many a basis for progressing to further study. Half of these Certificate holders (48 percent) have gone onto further study, a much higher proportion than the other graduates surveyed. These certificate holders need to be separated out from the other certificate holders to give a better picture of the employment outcomes for each qualification type.

To work out the impact of the qualification on the chances of gaining paid work, it is important to exclude those graduates who were employed before they started their training and who are still with the same employer. The total number is 26, of which 12 are Certificate holders, 5 have an Intermediate Certificate and 8 have a Diploma. As might be expected, taking out those already employed results in a slight decrease in the proportion in paid work for each qualification.

Figure 9: Proportion of graduates in new paid work, not in paid work & currently studying by qualification type, percent



As Figure 9 above shows, three-out-of-four Diploma graduates (75 percent) are in a new job, near to two-in-three Intermediate Certificate holders (all trade certificates) (63 percent) have a new job, followed by certificate holders with 58 percent in a new job. However, less than one-in-five (17 percent) of those have completed the entry-level qualification in the pre-trade life skills programme are in paid work.

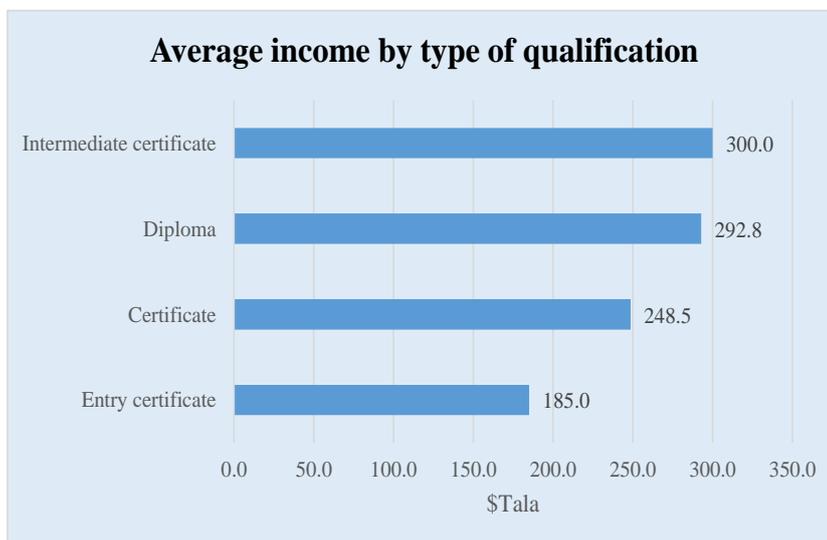
The employment outcomes for the entry-level qualification show the difficulty young people have in finding work without post school qualifications. The holders of the entry-level qualification are all males, have an average age of 21.1 years, which is 2.6 years younger than the other graduates (23.7 years) and with a lower level of secondary education (Year 11 or 12 compared with Year 12 or 13).

Income earned

Figure 10 shows the average income before tax for four broad types of qualifications. The trade Certificate holders earn the highest average income, followed by Diploma holders, and

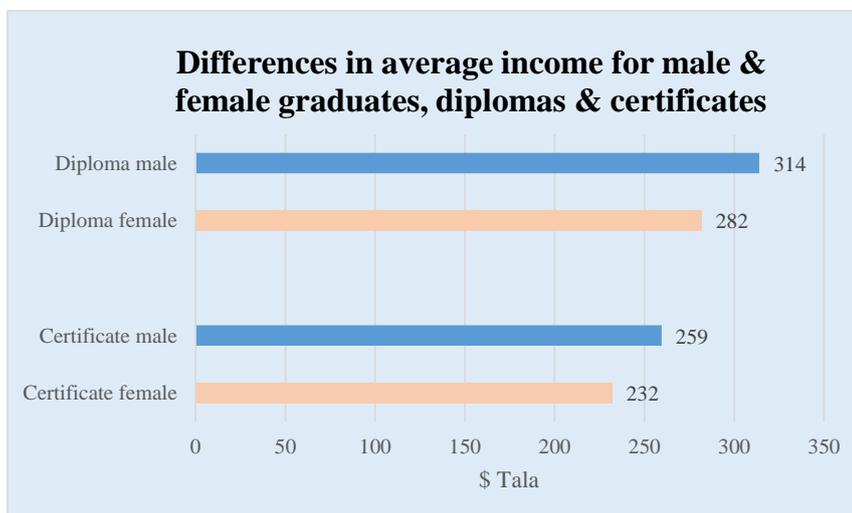
Certificate holders. The lowest average income is earned by the small number of the Certificate in Pre-Trade Life Skills who were able to find work.

Figure 10: Average income before tax of graduates in paid employment, excluding overseas seafarers



Male and female graduates at both the Certificate and Diploma level were paid on average different incomes. For Diploma graduates, males earned an average of \$314 a week and female graduates at the same level earned \$282 a week. At the Certificate level, male graduates earned \$259 and female graduates earned \$232 a week.

Figure 11: Differences in average income earned by male & female Diploma and Certificate graduates



Employment outcomes by specific qualification

Figure 12 reports on the share of graduates of specific qualifications in paid work with an employer. The worst performing qualification in terms of leading to job with an employer is

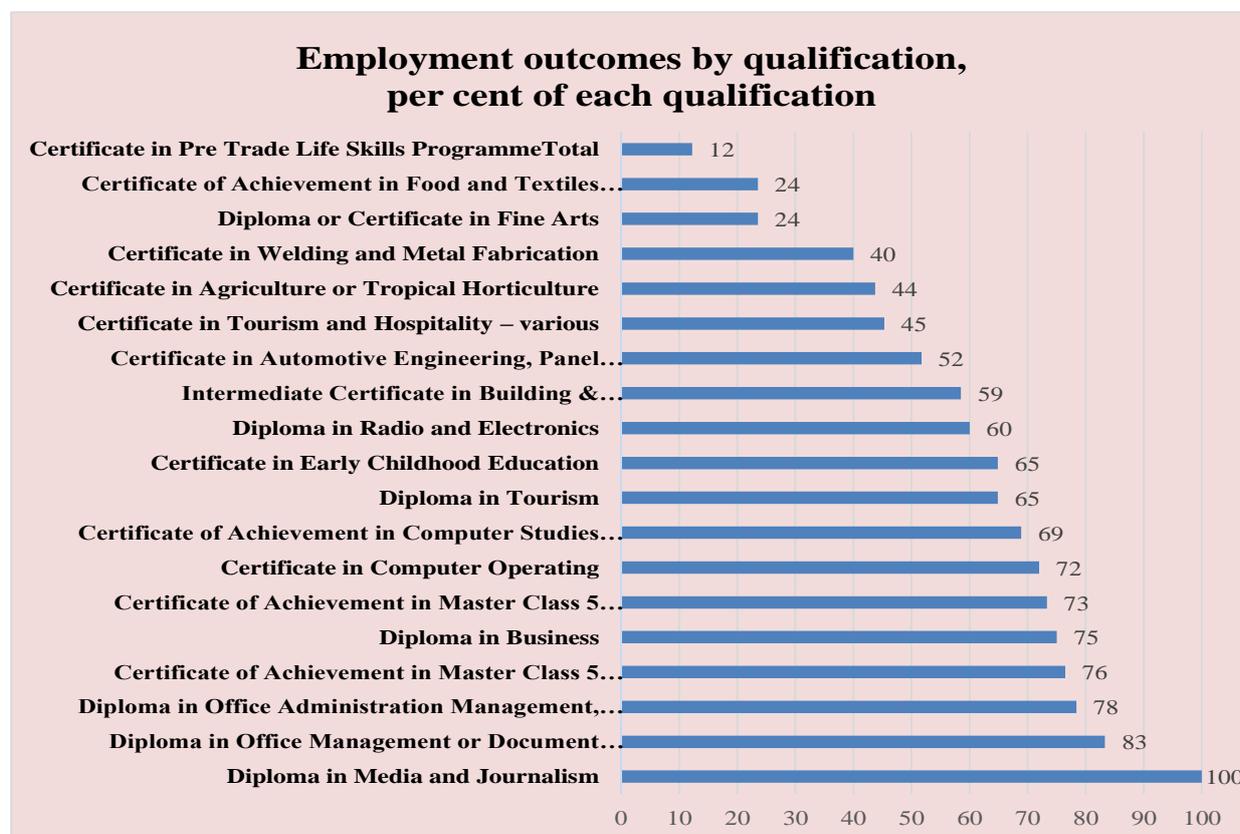
the Certificate in Pre-Trade Life Skills. The graduates with this qualification have only 12 percent in paid work with an employer of the 90 graduates surveyed. As noted above, its employed graduates also have the third lowest average income of \$185 per week.

The next lowest employment outcomes are for the Certificate of Achievement in Food and Textiles Technology, the Diploma in Fine Arts and the Certificate in Fine Arts, all with only a quarter of these graduates in paid work with an employer. Employed graduates with a Diploma or Certificate in Fine Arts are earning on average the second lowest average of \$165. The Certificate of Achievement in Food and Textiles Technology employed graduates earn \$229 a week.

In terms of high rates of paid work, all graduates of the Diploma in Media and Journalism who were surveyed are employed and earned the second highest weekly pay (\$316). However, those graduates in the Diploma in Media and Journalism who responded number just under half of the total number of graduates (19) with this Diploma. It is likely that a full count of all graduates of this Diploma would reveal a lower employment rate.

Other qualifications with high paid employment rates are: the Diploma in Office Management or Document Production; the Diploma in Office Administration management; computing skills, info management, education assessment; the Certificate of Achievement in Master Class 5 Nautical or Maritime Training; and the Certificate in Computer Operating.

Figure 12: proportion of major qualifications in paid work for an employer, percent of total graduates in each qualification



The qualifications with higher than average pay are also the qualifications with high

employment rates. These are the Diploma in Business; the Diploma in Media and Journalism, as noted above, the Diploma in Office Administration and Management; Certificate in Nautical Training, and the Certificate of Achievement in Computer Studies and Office Administration and Management. However, the relationship between employment rate and pay level does not always hold. The employment rate for holders of the Certificate of Early Childhood Education is high at 65 percent but the average weekly pay is the lowest of all graduates at \$159.

Wage rates attained

Annex 8 noted the average income and income range for graduates in work by specific qualification. Surprisingly, some qualifications that could have been expected to do well in terms of employment outcomes and wage rates did not. These qualifications related to Certificate holders in fields of study related to tourism and the trades.

Figure 13: Average weekly income of graduates in paid work with an employer, in Samoan Tala



Specific qualifications that performed poorly in terms of employment outcomes and average weekly pay are:

- Certificate holders in Tourism and Hospitality – various with only 45 percent in paid work with an average weekly pay rate of \$212;

- Certificate holders in Automotive Engineering, Panel Beating, Spray Painting with 52 percent in paid work and an average weekly pay rate of \$235;
- Intermediate Certificate holders in Building and Engineering Trades has 59 percent in paid work with an average weekly pay rate of \$264

The Diploma in Tourism with a 65 percent employment rate fared better than the tourism-related Certificates. This suggests a preference by employers for the Diploma graduates. This may reflect an assessment by employers that the Diploma compared with the Certificate offers more and/or better skills training. It may also mean that some employers use level of qualification as a screening mechanism to select from a long queue of potential job applicants.

Profile of each broad type of qualification

Certificate holders who are employed are more likely to have a lower skilled job and to have been on average in their job longer. They are also likely to earn less on average (\$280) compared with other qualifications (\$295). Certificate holders who have a paid job are more likely to feel they want to improve their skills, or to find another job in the future.

Certificate holders were less likely to have had work experience as part of their training. However, where they did have it, Certificate holders were more likely to rate it as relevant to their training. For those Certificate holders who had at least one job since graduation but not in paid work now, were more likely to say they had not used the skills they had gained in their temporary work.

Where graduates are living now makes a difference

Graduates who came from the AUA are more likely to be in paid work. Two-in-three graduates from the AUA (67 percent) are in paid employment compared with just over half (56 percent) for graduates from villages elsewhere in Samoa. They are also more likely to have a Diploma than graduates elsewhere in Samoa. However, Apia-based graduates in paid work for an employer did not earn any more than graduates in paid work for an employer elsewhere in Samoa. For the small number of those running their own business, their income levels were much higher in the Apia urban area.

Graduates from AUA are also more likely to be doing further studies compared with graduates who are from the rest of Samoa. Graduates from AUA have spent longer time in their jobs. They are also much more likely to say that they like their job, compared with graduates from the rest of Samoa (72 percent and 59 percent respectively). AUA graduates are also more likely to say that the skills and knowledge they received in their training are relevant to the job they are doing now. However, they are also less likely to say that work experience in a workplace was part of their training program compared with graduates from elsewhere in Samoa (73 percent compared with 81 percent respectively).

In contrast, graduates from Savaii have a different profile. Only 49 percent of graduates from Savaii have paid work compared with 67 percent in Apia, as noted above, and 61 percent in Upolu as a whole. Savaii graduates not in paid work are more likely to have had some paid work since they graduated compared with other graduates (68 and 42 percent respectively).

Those graduates in Savaii working as paid employees earn much less than employed graduates in Upolu (\$221 and \$292 respectively). They are much less likely to say they like their job, only 42 percent compared with 72 percent in AUA. They are much more likely to say they want to improve their skills (34 percent compared with 6 percent in AUA).

Savaii graduates are much less likely to be current students compared with graduates from Upolu (1 percent and 15 percent respectively). They are also more likely to be doing unpaid work in the family business or unpaid voluntary work or housework.

Another notable feature of Savaii graduates is that they are more likely to have graduates from the TIAS. They are also more likely than graduates from Upolu to rate more highly their teachers' efforts to arrange work experience for them. They were more likely to agree too that work experience was an important part of the training they received. Four-out-of-five Savaii graduates did get work experience as part of their training, a proportion that is the same as graduates from Upolu. Those Savaii graduates not in paid work are more likely to rate their work experience higher and to say they are happy with their training compared with graduates from Upolu.

Job skills match to qualification?

Table 1: A comparison of the job skills match by broad qualification type, percent

	1-- Managers	2-- Professionals	3-- Technicians & associate professionals	4-- Clerical support workers	5-- Service & sales workers	6--Skilled agricultural, & forestry & fishery workers	7--Craft & related trades workers	8--Plant & machine operators, & assemblers	9-- Elementary occupations	Total	N
Certificate	0.7	17.5	8.0	20.4	20.4	1.5	20.1	8.4	2.9	100	274
Diploma	0.0	18.1	16.1	53.7	8.1	0.0	4.0	0.0	0.0	100	149
Intermediate Certificate	0	8.2	10.2	2.0	14.3	2.0	59.2	4.1	0.0	100	49

Information about the match between graduates field of study and the type of jobs they get is an important part of assessing graduate employment outcomes. Are graduates able to find work that matches the skills they have been trained in? Are, for example, Certificate holders in Tourism able to find work related to the skills they acquired in their training?

The information on the work they were doing was coded using a skills-based occupational classification system called the International Standard Classification of Occupations. This system is maintained and updated by the International Labour Organisation in Geneva. It is used in all censuses in the Pacific. The system of coding provides the most detail on an occupation at level four. Level one, used in Table 1 above, offers the profile at the most general level, with managers and professionals at the top in terms of the skills and education required, followed by technicians and associate professionals, clerical support workers, service and sales workers, skilled agricultural workers, trades workers, plant machine operators and assemblers, and at the bottom, elementary occupations.

Table 1 shows that Certificate holders have jobs with the widest distribution across the nine skill and education based groups. The three largest occupation group where Certificate holders are found are in clerical support workers, service and sales workers, and trades work.

Some Certificate holders have jobs at the professional level. These are mostly Certificate holders in computing. Whether their job in computing justifies a classification at this level or at the technician level should depend on more detail about their prior relevant experience and other qualifications held.

For employed Diploma holders, however, their jobs are concentrated in the clerical support work group with over half (54 percent) in this group. Smaller concentrations of Diploma holders are found in the professional and technician/associate professional groups. For the trades-based certificates in employment, three-in five (59 percent) are found in trades related work with a smaller share in sales and service work and working as technicians.

Job/skills match for Certificate and Diploma holders in Tourism

Have Certificates and Diplomas offering training for work in hospitality and tourism sector led to work in this sector? A close look at the jobs of the holders of the tourism-related certificates shows that just over half (56 percent) were in jobs relevant to the skills they had acquired, although four of these jobs were in hospitality and tourism.²

Of the eleven with a Certificate in Tourism and Hospitality (Cookery), only six were working as a cook in a hotel. Of the six trained as tour guides, only two found work as a tour guide. Of the seven with a Certificate in Tourism and Hospitality (Food & Beverage), only three are working as bartenders or waiters. Of the ten holders of the Certificate in Tourism and Hospitality (Front Office and Administration), only one is working in the hospitality sector as a receptionist and another two are working as a housekeeper and housemaid/waitress. Four others are working elsewhere in customer service roles.

For those with a Diploma in Tourism, only one-in-five (38 percent) have a job related to the skills related to tourism in some way. Only one-in-five (21 percent) have a job in the hospitality and tourism sector.

These results suggest that the supply of Certificate and Diploma training for hospitality and tourism may be weakly linked to the demand for these skills from employers. Some Diploma holders in particular have found work elsewhere, mainly as clerical workers in the public sector. This suggests that the qualification has acted more as a screening device for employers than as a direct source of relevant skills. The public sector in particular may be more inclined than other employers to hire on the basis of holding a higher level qualification, especially at University level.

The jobs/skills match shows three outcomes:

1. close match between job and skills acquired such as a job as a cook and a Certificate in Tourism and Hospitality (Cookery);
2. a job which make use of a generic set of skills which were acquired during the training such as a customs agent and a Diploma in Tourism; and

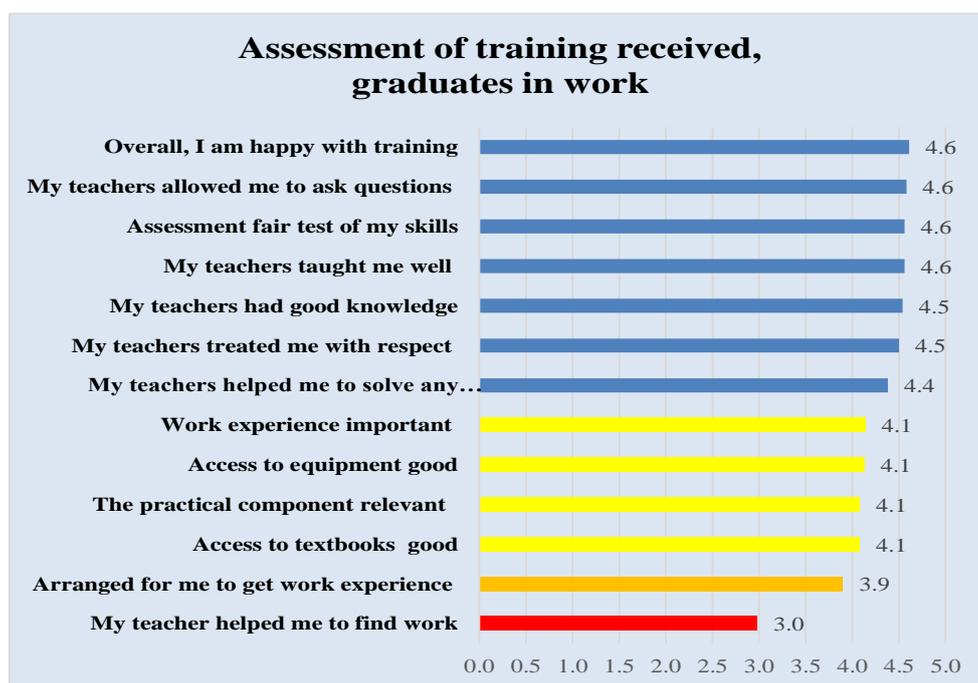
² These Certificates are: Certificate in Tourism and Hospitality (Front Office & Administration), Certificate in Tourism and Hospitality (Tour Guiding), Certificate in Tourism and Hospitality (Food & Beverage), and Certificate in Tourism and Hospitality (Cookery)

- where there is no match between the job and the skills acquired such as a job as a security guard and a Certificate in Motor Mechanics, or assistant primary school teacher and a Certificate in Tourism and Hospitality (Cookery).

2.2 Second outcome: graduate assessment of training received

A second important outcome of the tracer survey is to gather feedback from graduates on aspects of the training they received. The graduates interviewed were asked whether they agree or disagreed with 14 statements.

Figure 14: Average rating by graduates in work of statements about aspects of training they received, 1=strongly disagree, 5=strongly agree



They were asked to make their assessment using a five point scale from 1= strongly disagree to 5 = strongly agree. These ratings have been converted into an average and reported below in Figure 14. The higher the reported average out of five, the stronger the respondents' agreement with the statement. In general, graduates in work have rated many aspects of their training highly positively. This applies particularly to the summary statement: 'overall I am happy with the way training was run', which received the highest score of 4.6 along with several other statements.

Respondents, as common with other surveys of this kind, showed a marked willingness to offer a favourable response to most questions seeking their assessment. So slight variations from a high score are worth noting as they indicate that at least some respondents are offering a lower rating. This applies to the ratings of 4.1 marked in yellow, 3.9 marked in orange and 3.0 marked in red.

Lower ratings were given by graduates in work to the following statements:

- Work experience was an important part of the training I received
- Access to equipment or tools during my training was good
- Access to textbooks or support materials during my training was good
- The practical component of the program was relevant to my job now

However the statements that have notably lower ratings 3.9 and 3.0 respectively are:

- My teacher or Institute arranged for me to get work experience during my training
- My teacher or Institute helped me to find work.

On the last statement, just over half (53 percent), strongly disagreed, disagreed or were neutral in their assessment. Even the tendency noted above for respondents to give a favourable rating, this is a strong indicator that half of the graduates in work believed that their teacher or Institute could have done much more to help them find work. This result is even stronger for the assessment of graduates not in work as shown in Figure 15.

Figure 15: Average rating by graduates in not in work of statements about aspects of training they received, 1=strongly disagree, 5=strongly agree



As many as were neutral in their assessment that their teacher or institute helped me to find work aspects of work experience also were rated by graduates not in work lower than other statements (3.9):

- My teacher or Institute arranged for me to get work experience
- Work experience was an important part of the training I received.

Figure 16: Average rating by graduates in work for each Institute of statement 'My teacher or Institute helped me to find work' 1=strongly disagree, 5=strongly agree

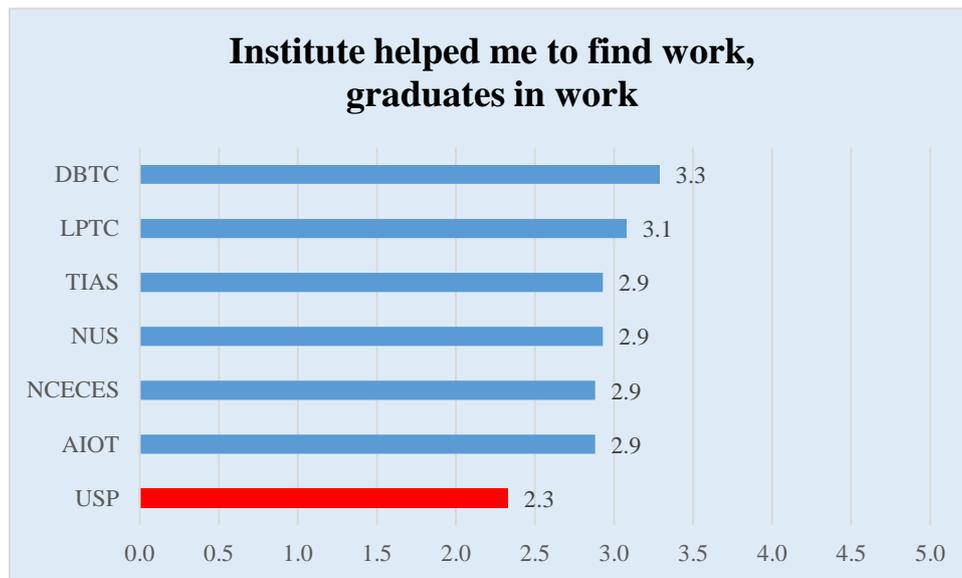
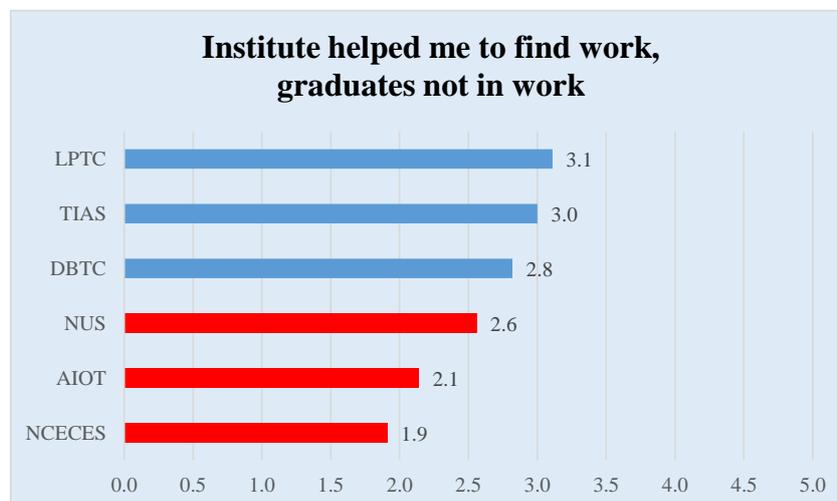


Figure 16 shows that graduate in work give a low rating for all PSET providers, with a small difference between DBTC with the highest rating and USP at the bottom with the lowest rating. Figure 17 shows that graduate not in work gave a lower rating to several Institutes, NUS, AIOT and NCECES.

Figure 17: Average rating by graduates not in work for each Institute of statement ‘My teacher or Institute helped me to find work’, 1=strongly disagree, 5=strongly agree

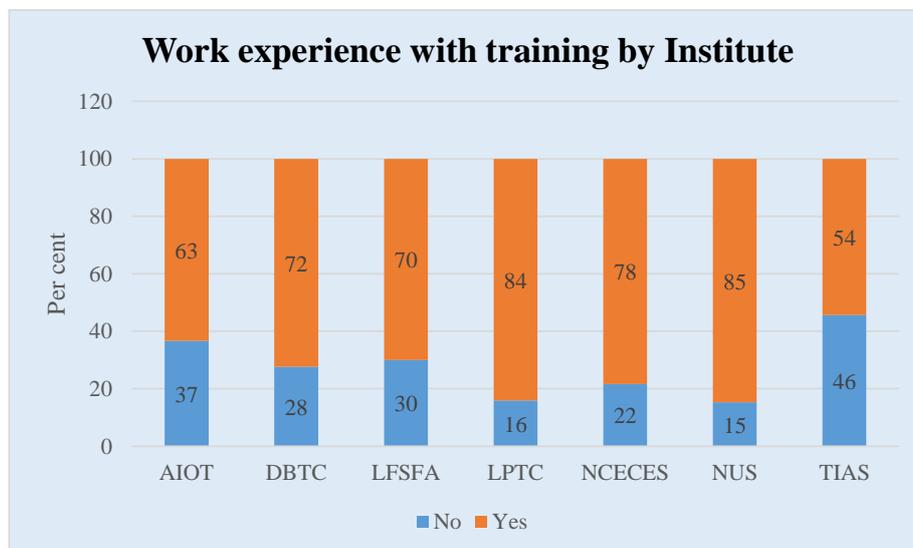


Whether work experience was provided and its importance

Eight out of ten graduates (78 percent) received work experience. Both graduates in paid work and those not in paid work rated as relevant or very relevant, giving a combined rating of 4.5 out of 5. There is no major difference between the employment outcomes of graduates who had received work experience as part of their training and those who did not.

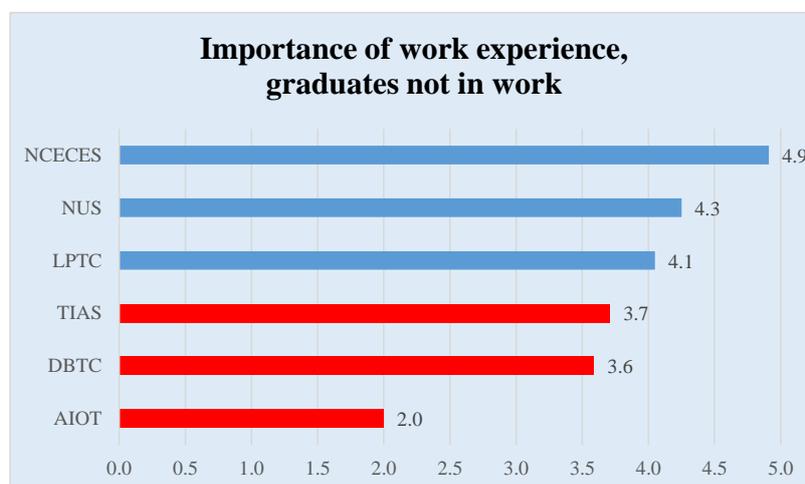
However, proportion of graduates who had work experience with their training varies by their PSET provider. The range shown in the orange colour is from 54 percent of TIAS graduates to 84 percent of LPTC graduates.

Figure 18: Proportion of graduates who had received work experience as part of their training programme



The lack of opportunity to have work experience as part of their training is reflected in the ratings of the graduates not in work. The ratings for AIOT, DBTC, and TIAS reflect the higher proportions of graduates from these Institutes who did not receive work experience.

Figure 19: Rating of the statement ‘work experience was an important part of the training I received’, graduates not in work, 1=strongly disagree, 5=strongly agree



Major effect of work experience on current job

Work experience has had a major impact on a graduate’s chances of getting a job. As many as one-in-four graduates now in work (26 percent) said they were working with the same employer with whom they had placed for their work experience. This applied not only to the trade Certificates based on apprenticeships with employers but also to other qualifications. The graduates of the following non-trade-based qualifications in particular were still with the same employer:

- Diploma in Business

- Certificate in Computer Operating
- Certificate in Early Childhood Education
- Diploma in Office Management
- Certificate in Tropical Horticulture
- Diploma in Tourism
- Certificate in Pre-Trade Life Skills Certificate in Tourism and Hospitality (Cookery)
- Certificate in Tourism and Hospitality (Front Office & Administration)
- Certificate in Maritime Training (Nautical)
- Certificate in Office Skills and Computing
- Diploma in Media and Journalism

2.3 Third outcome: graduate feedback on skills learnt and not learnt

Graduates were asked ‘What did you learn in your training that have helped you in the activities you do now?’ They were also asked to say ‘what were the issues you did not learn enough about in your training?’ These responses were open-ended to enable respondents to state themselves the major skills they had learnt or not learnt. Graduates were also asked to offer ‘any suggestions for improving the training you received’ and were asked to list up to three suggestions.

Most of the responses related to the technical skills graduates had acquired. However, a number of generic skills were identified. In order of importance these were customer service, office administration (both mentioned about the same number of times), followed by management skills and time management and marketing.

Of the skills that graduates said they had not learnt, technical skills is by far the largest category. SQA can produce on request from PSET providers a report for each major qualification listing the specific technical skills that the respondents identified. In terms of generic skills, communication was the most important set of skills in which graduates said they had not received enough training. This was followed in importance by computing skills, customer service, management and office administration skills. The significance of these generic skills are discussed more under the key findings heading in the conclusion to this report.

Suggestions for improvement

Graduates were asked to offer ‘suggestions for improving the training you received’ and were invited to offer up to three suggestions. Most graduates took the opportunity to offer their comments. An average of 1.4 suggestions per graduate was given.

Figure 20: Graduate suggestions for improving the training they received, percent of all suggestions made



The most important suggestion (54 percent of all suggestions) related to the need for more or better resources for the Institutes providing the training (see Figure 20). Specific comments included: ‘not enough tools and equipment for students practical work’, ‘not enough textbooks’, and ‘not enough computers for students to use’.

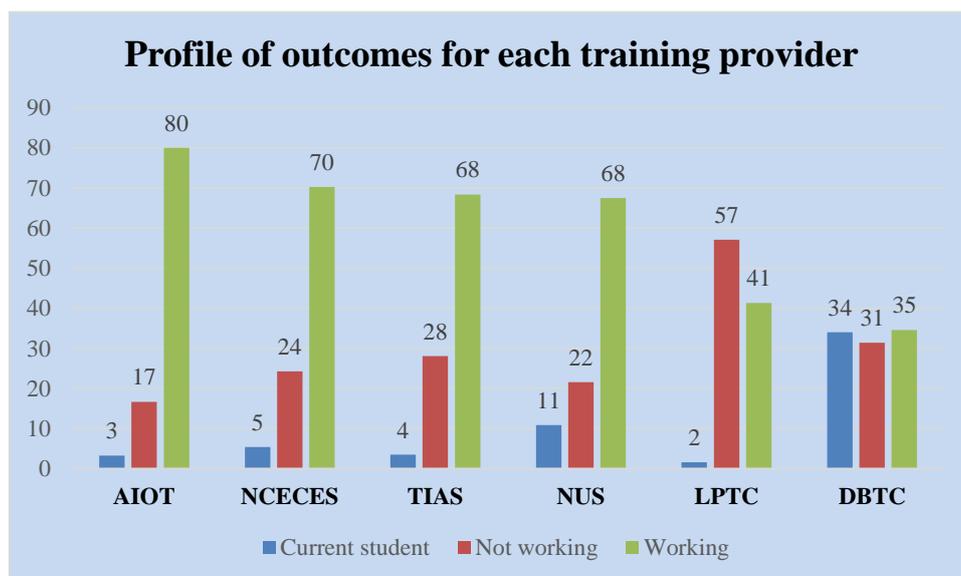
The issue of the need for more qualified and committed teachers was the subject of 15 percent of the suggestions made. A large subgroup of responses was more critical of teachers. Two in five of these responses highlighted the problem of teachers showing a lack of personal commitment or being non supportive. Examples of specific complaints made were: ‘teachers are mostly late to classes’, ‘teachers were absent from classes’, ‘teachers did not spend enough time with students to assist with their learning’, ‘teachers focused on other commitments rather than on teaching the course’, and ‘teachers showed lack of experience and knowledge in teaching computing’.

The need for more or better conducted practical exercises accounted for 13 percent of the suggestions. The comments mostly related to not having enough time for practical exercises as in this comment: ‘There were not enough practical activities, but too much theory’.

The issue of fees was the basis of 5 percent of suggestions. Half of these comments referred to the fees being too expensive. Other comments on fees related to a different fee structure to promote better access: ‘consider lowering school fees to ensure [better] access’, and ‘school [should] provide other means of financial assistance for students' course fees’.

Differences in employment outcomes between Institutes

Figure 21: Employment outcomes of TVET graduates of the main PSET providers, percent

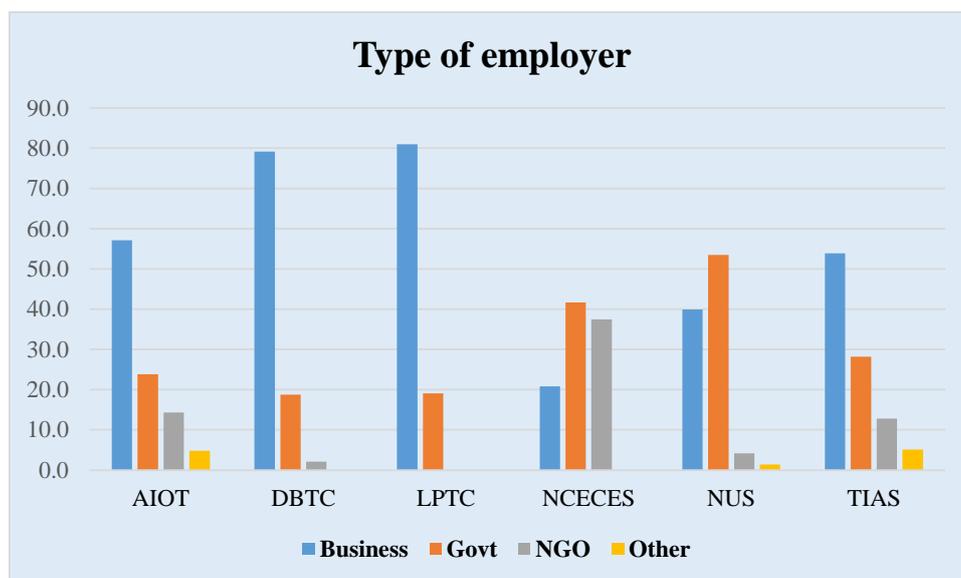


The institutes with the highest employment outcomes are: the Apia Institute of Office Technology (AIOT), National Council of Early Childhood Education in Samoa (NCECS), Tesese Institute of Administrative Studies (TIAS) and the National University of Samoa (NUS) (see Figure 21). These differences reflect the different type of qualification (e.g. Certificate or Diploma) and the different fields of study that each institute has.

In terms of employment outcomes, DBTC graduates with only one-in-three in employment are less likely than any other institute to be in any paid work. However, DBTC's graduates are also more likely than any other provider to be current students, as many as 34 percent compared with an overall average of 14 percent of the graduates surveyed.

The type of employer of the graduates from each institute is very different. In relation to the two large providers, four-out-of-five of DBTC graduates are working for a business and only one-in-five are working for Government. In contrast, only two-in-five NUS graduates are working for business and over half are working for Government. Of the smaller institutes, LPTC has the highest proportion of employed graduates working for business, followed by AIOT with 57 percent and the TIAS with 54 percent.

Figure 22: Sector of employment for graduates by Institute



Don Bosco Technical Center Graduates

A comparison of the responses by institutes shows that two providers are notably different from each other. The graduates surveyed from the DBTC are all male compared with half of all other graduates (48 percent). The Centre's qualification is a Certificate. A key objective of the DBTC is to target young people who have left school before completing Year 12. So their graduates have a lower level of secondary schooling (Year 11 on average) compared with other graduates (Year 12 and Year 13 on average) and are younger (22 years of age compared with 24 years of age of all other graduates). They took longer to complete their qualifications (2.4 years) than other qualification holders (1.7 years). The jobs that DBTC graduates got were also lower down the skill ladder and earned less (\$191) than other graduates (\$274). DBTC graduates are more likely to be working for a business rather than for government and less likely to have been working before they started their training.

In terms of their assessment of the training they received, DBTC graduates in employment are more likely than other graduates to rate their access to equipment as good. However, they are less likely than other graduates to say that their teachers allowed them to ask questions. Among DBTC graduates not working now, they are less likely to agree that their teachers treat them with respect than other graduates. They are also less likely to agree that their teacher or Institute got them work experience or that work experience was an important part of their training compared with the ratings of all other graduates not working now.

National University of Samoa Graduates

Graduates of the NUS differ from all other graduates in a number of respects. One key characteristic is that they are more likely to come from the AUA compared with the residents of Savaii and the ROU except for NWU under-represented.

NUS graduates are more likely to have a higher level of secondary schooling (Year 13 on average) and be more likely to have graduated with a Diploma than other graduates. They are also more likely to have completed another qualification than other graduates.

NUS graduates are much more likely to be in paid employment of some sort (64 percent) compared with all other graduates (45 percent). Over half of NUS graduates (54 percent) work for government, a much higher proportion than all other graduates (31 percent). NUS graduates in paid work are also earning much more than all other graduates in work, \$267 compared with \$229.

NUS graduates in work are also more likely to be wage employees than other graduates in work and are less likely to be self-employed. They are also more likely to be in a job higher up the skill ladder than other graduates in work.

In terms of their assessment of the training they received, NUS graduates in work are less likely than other graduates to rate highly their access to equipment. NUS graduates are more likely to say they had received work experience with their training. However, they are also less inclined to rate the work experience as relevant to their training. The NUS graduates who are not in work now have had one or more jobs since graduating (1.6 jobs on average), more than other graduates not now in work (1.3 jobs on average). NUS graduates not in work now have earned an average \$161 per week in the job or jobs they have had since graduating, more than other graduates in their temporary jobs (\$148 per week).

NUS graduates not now in work are more likely to say that work experience was part of their training and that this work experience was a relevant part of the training. These not-in-work graduates are less likely to want information about available jobs in the rest of Samoa.

Tesese Institute of Administrative Studies Graduates

The characteristics of graduates of TIAS are also notably different to other institutes. Eight out of ten graduates surveyed are women, compared with an average of 40 percent for all graduates. They are also likely to be older on average than other graduates surveyed (26.1 years on average compared with 23.4 years).

TIAS has a higher representation of graduates from Savaii compared with all other institutes. Its graduates also have a slightly higher level of secondary education (more with Year 13) than other graduates. TIAS graduates are also more likely to have paid work, 68 percent compared with 54 percent of all other graduates. They are also likely to have had other jobs before their current one compared with all other graduates (46 percent and 29 percent respectively). Fewer TIAS graduates now working had work experience as part of their training compared with all other graduates (40 percent compared with 83 percent).

Type of information requested about jobs and skills

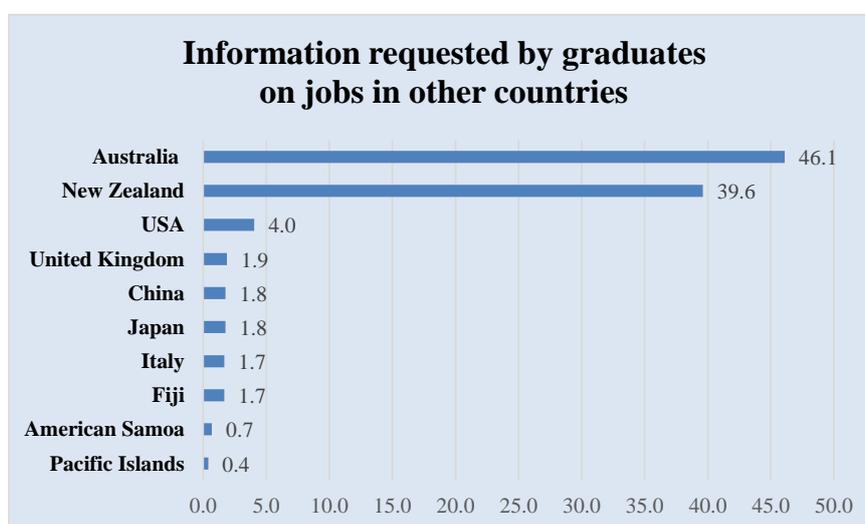
Graduates were asked to rate the importance to them of information about available jobs and types of skills needed to help them find work relevant to their qualification. The information options were about the available jobs and types of skills needed in Apia, rest of Samoa and overseas.

At least nine out of ten graduates rated as important or very important information about available jobs and type of skills needed in each of these locations. Information about available jobs in Apia rates the highest with 97 percent of graduates rating this information as important or very important. Information about jobs in the rest of Samoa is important or very important to 90 percent of graduates. Information about available jobs overseas is important

or very important to 89 percent of graduates.

If graduates wanted information about jobs overseas, they were asked to say which country or countries. Australia and New Zealand dominate the list of countries mentioned. Many graduates listed more than one country but the first mentioned countries are similar, with 45 percent of the first or only mentioned country being Australia and 44 percent being New Zealand. The prominence of Australia reflects graduates understanding of the jobs situation in Australia taken from the media and other general sources of information. Their information has not come directly from fellow graduates, as only 12 graduates are working in Australia compared with 111 in New Zealand.

Figure 23: Proportion of graduates responding to the question about what countries overseas they wanted information about available jobs, percent of all countries listed



3. CONCLUSION

The special benefits of a graduate tracer survey

A graduate tracer survey offers information not available from any other data source. A tracer survey brings together information on the supply and demand sides of the market for skills with enough detail to give a good picture of what is happening in the labour market to recent graduates. A tracer survey also gives scope to find out not only about the employment outcomes and wage rates of graduates. As a special purpose survey, it is also able to assess the match between a graduate's job and the field of study of their qualification. Another valuable objective of a tracer survey is to seek feedback from graduates on the relevance and quality of the training they have received in the light of the skills they need in the workplace.

Tracer surveys are needed at both the point of service delivery and at a national level. The first type of tracer survey needs to collect local area information and is best conducted by training providers each year for the benefit of potential customers. A second type of tracer survey is needed at a national level and should be conducted by an agency such as the SQA with a mandate to oversee in the national interest the quality of the training provided.

Limitations of other data sources on the labour market and skills

Other forms of data collection on the labour force with relevant variables such as occupations and qualifications are more restricted in the profile they can provide. The census provides detailed but basic information at one point in time, usually once every five years. The census can report on an individual's highest level of qualification, whether they are in paid employment or not and what type of work they are doing. However, the information about qualifications in the census is limited only to general categories such as post school Certificate, Diploma or Degree. No detailed information is available about the field of study of the qualifications gained. Census data may also only provide highly general information about occupations, as is the case for the 2011 Samoa census.³ Most censuses do not provide information on a person's income because this needs to be collected in a more systematic basis over an extended period.

A labour force survey, from a supply and demand for skills perspective, offers the opportunity to collect more detailed information on the type of qualification held by those in paid work, as well as details of their occupation and income. However, in countries such as Samoa with a large informal agricultural economy, a national labour force based on a national random sample can only give a partial picture of the workforce in the formal economy. If the formal sector is not over-sampled, the proportion of the labour force who are in paid employment is likely to be a third or less of the total population surveyed. The resulting small sample size makes it difficult to collect enough information on specific types of qualifications and hence give a good picture of the supply of skills. A small sample size also limits the information that can be collected on the number of job holders in specific occupations and their wage levels and so can provide only an incomplete picture. Household income and expenditure surveys,

³ The 2011 Samoan census only collected information to the one-digit level of 10 broad categories, unlike all other censuses in the Pacific. This is acknowledged by the Samoan Bureau of Statistics as an oversight, which will be corrected for the 2016 census.

based on a national sample, also suffer from the same limitations.

Discussion of findings and key issues

The major findings from an analysis of survey result show that employment and related outcomes vary greatly by qualification level (Certificate or Diploma) and the field of study of the qualification.

Need for up-to-date information on the demand for specific skills

The prospects for the employment of TVET graduates depend in part on the specific demand from employers for skills matched to a qualification. The survey results, for example, about the low employment outcomes achieved by those with a qualification related to tourism show that PSET providers need up-to-date information about the demand for skills in specific sectors such as tourism. Government agencies, PSET providers and potential students need this information to avoid an oversupply of graduates with qualifications which have a specific sector focus.

Weak match between fields of study and jobs

However, there is also evidence that many TVET graduates found work in areas not directly related to their training. The job/skills match show that some employers, especially in the public sector, have a preference for Diploma graduates, irrespective of the relevance of their field of study. It is recommended that sector-specific qualifications also need to show how they are fostering generic key competencies that their graduates have or need to acquire. These key competencies refer to the employability skills or competencies that apply in most workplaces.

A number of high-income countries, including Australia and New Zealand, have identified what have been called ‘key or core’ competencies. These countries have recognised that social skills are a necessary element of the skills needed in workplaces. The Organisation for Economic Cooperation and Development (OECD), a think tank based in Paris, conducted a project in 2002-2005 to work out ‘a limited set of competencies that are essential to personal, economic and social well-being’.⁴ These have been based on the common elements of the different key or core competencies identified by OECD member countries. These competencies are presented below.

⁴ Dominique Simone Rychen, 2009, ‘Key Competencies: Overall Goals for Competence Development: An International and Interdisciplinary Perspective’, in R. Maclean, & D. Wilson (eds.), *International Handbook of Education for the Changing World of Work*, Springer and the UNESCO International Centre for Vocational Education and Training, Bonn, p 2573

<i>Able to interacting in socially mixed groups</i>	<i>Able to act autonomously</i>	<i>Able to use tools interactively</i>
the ability to relate well to others;	the ability to act within the 'big picture';	the ability to use language, symbols and text interactively;
the ability to co-operate;	the ability to form and conduct life plans and personal projects;	the ability to use knowledge and information interactively;
the ability to manage and resolve conflict.	the ability to defend and assert one's rights, interests, limits and needs.	the ability to use (new) technology interactively.
Source: Organisation for Economic Co-operation and Development. 2005. The definition and selection of competencies: executive summary. www.oecd.org/dataoecd/47/61/35070367.pdf		

The survey responses of the graduates themselves about the skills they had not learnt point to the type of skills that need to be emphasised more in occupation-specific training. Communication skills were the most important set of skills graduates identified. Next in importance came computing skills, followed by customer service, management and office administration skills.

Explaining why some graduates cannot find work

Another important purpose of the survey is to see what factors help explain why some graduates cannot find work relevant to their skills. Nearly half (46 percent) of the graduates not in work now had found temporary jobs since graduating (an average of 1.5 jobs per graduate not now on work). Many of these jobs did make use of the skills the graduates had acquired, with nearly three out of four (72 percent) saying that in the longest job they had held they had used many or most of the skills they had acquired in their training.

However, the issue that three out of five (61 percent) unemployed graduates highlighted as a deficiency in their training was the lack of help from their teacher or institute in finding a job. This was an issue noted also by graduates now in work although not quite to the same extent. Also many unemployed graduates believed that their teachers could have done more to arrange relevant work experience for them.

The link between work experience and finding an ongoing job was crucial for one-in-four of graduates now in work as shown by the fact that they are still with the same employer. Teachers' efforts to link students with employers through finding an appropriate work placement is the single best way that they can use to help their graduates find work matched to their training. Teachers can find appropriate work placements by keeping in close touch with employers through regular visits to workplaces to request opportunities for work placements and to get feedback on the performance of their students when they are in a work placement. This contact is also the best way a teacher can find out from employers what skills they require of their workers and how well their students are able to do what is expected of them.

Good information needed to make informed decisions

As the introduction noted, graduate tracer surveys are recommended good practice for all TVET providers. They provide information for a number of major stakeholders. Governments want to know whether their investment in TVET is giving the return they are expecting. Is publicly funded TVET responding effectively to the demand for skills from public and private sector employers? Government agencies responsible for boosting economic growth in the economy as a whole or in specific sectors need to know whether and how well the supply of skills is meeting the demand.

Surveys of employers, such as the World Bank's Enterprise Survey for Samoa, highlight the lack of available skills as a key barrier to the growth of businesses. Showing the extent to which the domestic supply of skills is meeting the needs of employers is the evidence governments are seeking to justify their continued investment in post school education and training.

Good information needed as close as possible to where the action is

However, information on the supply and demand for skills is not only needed by governments as an economic-wide or industry sector basis. Just as importantly, good information is also needed at the level of PSET service delivery.

Potential students, current students, their parents and careers counsellors want to know what sets of skills offer good career prospects in terms of pay levels and opportunities for further skills acquisition and advancement. They want information to help them decide about what fields of study to choose to invest their time and money to acquire. They also want to know which PSET providers offering the same type of qualification deliver better job and wage outcomes, and whether the job was matched to the qualification.

Employers also want up-to-date information on the employment rate of graduates with skills relevant to their business and going wage rate for graduates with these qualifications. They also want to know which TVET providers have good employment outcomes so they can make informed decisions about which providers to work with to offer work placements to their students in training.

TVET providers need to show prospective students and employers what their graduates have achieved in the labour market and what feedback they have received from their graduates. In addition, it is likely that SQA accreditation requirements will build on this good practice and require all PSET providers to submit an annual report on the outcomes they have achieved.

Outcomes information likely to be needed for the Annual Registration Renewal as a provider

The SQA states in a note on the content of a proposed provider annual reporting process that there is an international trend in quality assurance for post school education and training providers to focus on outcomes.⁵ The note proposes that an annual reporting of outcomes be

⁵ Samoa Qualifications Authority, 2013, *Provider Annual Reporting Process*, pp 3.

part of the requirement for re-registration of a PSET provider. It is proposed that the provider should address the following questions:

How well do learners achieve?

How do learners, graduates and other stakeholders benefit from the training programmes?

The note also proposes a number of indicators of good practice to be used in the annual reporting requirement. In relation to how graduates and other stakeholders benefit from the training programme, the suggested indicators on graduates include but are not limited to:

Gain employment and/or go onto further study, and
Have skills, knowledge and attitudes been acquired which are valued by employers.

What type of information is needed on outcomes?

The tracer survey methodology suggests that three additional sources of information related to employment are needed. First, it is important to know whether the graduate was already in employment before starting the training program so that the employment outcomes indicator records only those in new jobs. Second, it is essential to find out whether the work the graduate has found is matched to the skills they have acquired in their training. Third, information on the wage rate per hour and the amount of hours worked per week is also valuable for completing the picture about the employment outcome.

Who should collect the information?

The most efficient and effective way to collect this information is at the level of a specific training programme leading to a qualification. A demand-focused TVET provider needs to collect this information in a systematic way on an annual basis.

It is recommended that a training programme leading to a qualification conduct its own tracer survey within six to nine months after graduation. A simple, low cost methodology for conducting the survey has been outlined in the SQA training manual for tracer surveys. The proposed survey method is to first of all organise a social gathering for graduates to make contact, and conduct interviews. This should be followed by face-to-face and telephone interviews with the aim of getting at least a 75 to 80 percent response rate.

It is essential to survey most of the graduates from a training programme to ensure that an accurate picture is provided of what has happened to these graduates. Collecting information only from the graduates who are easy to contact is likely to bias the results of the tracer survey to those who are now in paid work, as those not in work may have returned to their home village or otherwise become hard to contact. A three yearly survey conducted by the SQA is needed to cross check the accuracy of the findings reported by specific training programmes. Without this independent quality check, PSET providers may be tempted to do any a partial survey and to report results that undercount graduates not on paid work.

These findings and recommendations are restated below in the form of specific recommendations for the SQA and PSET providers.

Specific recommendations for SQA consideration

Recommendation 1: It is recommended that SQA ask PSET providers offering qualifications with low employment outcomes to show cause as to whether offering these qualifications are justified at all or on a smaller or less frequent scale they are being offered at present.

A key purpose and justification for conducting a national tracer survey is for SQA to ask providers to make changes in the light of the feedback received on employment outcomes. PSET providers offering qualifications with poor outcomes in the labour market need to 'show cause' that they are not misleading prospective students about the value of the training they are providing.

Recommendation 2: Providers offering qualifications with a specific sector focus need also to provide evidence to employers that these qualifications are also providing generic competencies that can be applied in other work settings as well. It is recommended that the SQA ensure that key competencies related to employability are incorporated into the competency profile of sector specific qualifications.

Employers have just as strong an interest in general employability skills as they have in specific technical training, especially where the latter can also be taught on-the-job.

Recommendation 3: PSET providers can improve the employment outcomes of their graduates by ensuring that they have relevant work experience with employers. It is recommended that SQA develop and promote a good practice guide to PSET providers and to the public about the benefits of work placements.

This guide should cite the evidence presented in this tracer survey about the employment related benefits and the feedback from many graduates that this form of support was missing from the training they received. The guide should also show how training providers can best approach employers about providing opportunities for work placements. The guide should also include a checklist of key steps providers need to take to work closely with employers to ensure that the provider, the employer and the student gain the most from the experience.

Recommendation 4: SQA should prepare a short guide to show the government and the community which training providers are delivering value for money and how the results of the tracer survey have resulted in changes in the frequency and quality of the training that PSET providers deliver.

The government and the community want to see that the funds that are being invested in the provision of training and the quality assurance processes that SQA institutes and manages are achieving a return in their investment.

Recommendation 5: It is recommended that SQA include in the information provided in its career advisory services data on the employment outcomes of specific qualifications, whether the employment was matched to the skills imparted by the training and the wages earned by graduates in specific occupations.

Information on the labour market demand for a range of common occupations is missing from the documentation for career advice of both the Ministry of Commerce, Industry and

Labour and the SQA's Career Advisory Services. The tracer survey results are the best source for this labour market information but other recent survey data on the labour force will also be relevant.

Recommendation 6: It is recommended that the SQA also include a request for other related information and that a template of key questions be developed and circulated to all providers.

The tracer survey results show that the additional information needed about the employment gained by a graduate includes whether it is matched to the field of study of the qualification undertaken. Also important to find out the wage rate per hour the graduate is earning as a measure of the quality of the work. Information about any jobs held since graduating, what type of job and hourly wage rate would also help provide a complete picture in a labour market where jobs are scarce.

Recommendation 7: It is recommended that the SQA encourage and support PSET providers to conduct their own tracer survey for each qualification they offer within six to nine months after graduation. It is also proposed that SQA promote the use of a simple, low cost methodology, as outlined in the SQA tracer survey training manual.

Recommendation 8: The SQA needs to conduct a national tracer survey every three years to cross check the information that training providers are reporting on an annual basis and to carry out more complex analysis of the labour market outcomes.

Systematic information is needed for the PSET sector as a whole to assess its performance in terms of matching supply to demand. For specific elements such as TVET which may be operating under new funding arrangements, the effect of these arrangements on employment and related outcomes will need to be monitored. There is a danger that if, for example, some funding for providers is tied to outcomes, and this information is based on tracer surveys carried out by providers, a means of cross checking the reliability of these results will be needed.

ANNEXES

Annex 1: Response rate by qualification based on initial list of graduates supplied by institutes, number & percent

Qualification	Institution	Survey	List	Response rate
Certificate in Computer and Information Management	AIOT	7	10	70.0
Certificate in General Studies	AIOT	2	9	22.2
Certificate in Office Administration	AIOT	10	19	52.6
Diploma in Computer and Information Management	AIOT	3	3	100.0
Diploma in Office Administration	AIOT	7	8	87.5
Diploma of Teaching Computer Studies	AIOT	1	1	100.0
Certificate in Carpentry and Joinery	DBTC	12	27	44.4
Certificate in Motor Mechanics	DBTC	23	46	50.0
Certificate in Plumbing and Sheet Metal	DBTC	9	18	50.0
Certificate in Pre Trade Life Skills Programme	DBTC	90	131	68.7
Certificate in Welding and Metal Fabrication	DBTC	26	47	55.3
Certificate in Fine Arts	LFSFA	4	7	57.1
Diploma in Fine Arts	LFSFA	5	13	38.5
Certificate of Achievement in Automotive Engineering	LPTC	9	25	36.0
Certificate of Achievement in Carpentry and Joinery	LPTC	4	12	33.3
Certificate of Achievement in Computer Studies	LPTC	6	27	22.2
Certificate of Achievement in Electrical Engineering	LPTC	8	23	34.8
Certificate of Achievement in Fine Arts	LPTC	6	15	40.0
Certificate of Achievement in Food and Textiles Technology	LPTC	19	25	76.0
Certificate of Achievement in Plumbing	LPTC	5	8	62.5
Certificate of Achievement in Welding and Fabrication	LPTC	6	16	37.5
Certificate in Early Childhood Education	NCECES	37	59	62.7
Cert. Achievement in Masters (Nautical)	NUS	1	4	25.0
Certificate of Achievement in Marine Engineering	NUS		2	0.0
Certificate in Maritime Training Nautical	NUS		38	0.0
Certificate in Commerce (Management)	NUS	2	3	66.7
Certificate in Computer Operating	NUS	50	74	67.6
Certificate in Maritime Training (Nautical)	NUS	34	116	29.3
Certificate in Panel Beating and Spray Painting	NUS	7	20	35.0
Certificate in Tourism and Hospitality (Cookery)	NUS	19	33	57.6

Certificate in Tourism and Hospitality (Food & Beverage)	NUS	16	35	45.7
Certificate in Tourism and Hospitality (Front Office & Administration)	NUS	22	36	61.1
Certificate in Tourism and Hospitality (Tour Guiding)	NUS	18	25	72.0
Certificate in Tropical Horticulture	NUS	32	47	68.1
Certificate of Commerce (Accounting)	NUS	2	2	100.0
Certificate of Commerce (Management)	NUS	6	6	100.0
Diploma in Business	NUS	60	89	67.4
Diploma in Computing	NUS	4	5	80.0
Diploma in Management	NUS	2	3	66.7
Diploma in Media and Journalism	NUS	10	19	52.6
Diploma in Office Management	NUS	18	47	38.3
Diploma in Radio and Electronics	NUS	10	20	50.0
Diploma in Tourism	NUS	37	64	57.8
Intermediate Certificate in Automotive Engineering	NUS	20	32	62.5
Intermediate Certificate in Construction and Joinery	NUS	13	28	46.4
Intermediate Certificate in Electrical Engineering	NUS	8	18	44.4
Intermediate Certificate in Fitting and Machining	NUS	9	13	69.2
Intermediate Certificate in Plumbing and Sheet Metal	NUS	6	12	50.0
Intermediate Certificate in Refrigeration and Air-conditioning	NUS	10	16	62.5
Intermediate Certificate in Welding and Metal Fabrication	NUS	7	13	53.8
Certificate in Office Administration and Document Production	TIAS	7	13	53.8
Certificate in Office Skills and Computing	TIAS	30	35	85.7
Dip in Document Production	TIAS		4	0.0
Diploma in Office Administration and Computing Skills	TIAS	20	32	62.5
Certificate in Information Systems	USP	1	1	100.0
Certificate in Library and Information Studies	USP	2	4	50.0
Certificate in Management Studies	USP	1	3	33.3
Diploma in Agriculture	USP		5	0.0
Diploma in Education Evaluation and Assessment	USP	1	1	100.0
Diploma in Geomatics	USP	1	3	33.3
Diploma in Management Studies	USP	1	5	20.0
Certificate of Achievement in Food and Textile Technology	UTVC	1	42	2.4
		787	1517	51.9

Annex 2: Female to male balance by main qualification, number and percent female

Qualification	Female	Male	Total	percent
Certificate of Achievement in Food & Textiles Tech	19		19	100.0
Certificate of Achievement in Computer Studies	6		6	100.0
Certificate in Office Administration	6	1	7	85.7
Certificate in Office Administration & Document Production	6	1	7	85.7
Diploma in Tourism	31	6	37	83.8
Certificate in Office Skills & Computing	24	6	30	80.0
Diploma in Office Administration & Computing Skills	16	4	20	80.0
Diploma in Office Management	12	3	15	80.0
Diploma in Office Administration	4	1	5	80.0
Certificate in Early Childhood Education	28	8	36	77.8
Diploma in Office Management	14	4	18	77.8
Certificate in Tourism & Hospitality (FO & Admin)	15	7	22	68.2
Certificate of Commerce (Management)	4	2	6	66.7
Certificate in Tourism & Hospitality (Tour Guiding)	11	7	18	61.1
Diploma in Media & Journalism	6	4	10	60.0
Diploma in Business	35	25	60	58.3
Certificate in Tourism & Hospitality (Cookery)	9	9	18	50.0
Certificate in Tourism & Hospitality (Food & Bev)	8	8	16	50.0
Certificate in Tropical Horticulture	15	17	32	46.9
Certificate in Computer Operating	22	27	49	44.9
Certificate in Computer & Information Management	2	5	7	28.6
Intermediate Certificate in Plumbing & Sheet Metal	1	5	6	16.7
Intermediate Certificate in Refrigeration & A/C	1	9	10	10.0
Intermediate Certificate in Construction & Joinery	1	12	13	7.7
Certificate in Welding & Metal Fabrication	2	28	30	6.7
Certificate in Pre Trade Life Skills Programme	1	89	90	1.1
Certificate in Maritime Training (Nautical)		30	30	0.0
Certificate in Motor Mechanics		23	23	0.0
Intermediate Certificate in Automotive Engineering		13	13	0.0
Certificate in Carpentry & Joinery		12	12	0.0
Diploma in Radio & Electronics		10	10	0.0
Certificate of Achievement in Automotive Engineering		9	9	0.0
Certificate of Achievement in Electrical Engineering		9	9	0.0
Intermediate Certificate in Fitting & Machining		9	9	0.0
Certificate in Plumbing & Sheet Metal		8	8	0.0
Intermediate Certificate in Electrical Engineering		8	8	0.0
Certificate in Panel Beating & Spray Painting		7	7	0.0
Intermediate Certificate in Automotive Engineering		7	7	0.0
Intermediate Certificate in Welding & Metal Fabrication		7	7	0.0
Certificate of Achievement in Fine Arts		5	5	0.0
Diploma in Fine Arts		5	5	0.0

Annex 3: Proportion of each qualification with work experience as part of the training, percent of number of graduates for each qualification

Qualification	percent	N	Qualification	percent	N
Certificate & Office Administration and Document Production	100.0	7	Certificate & Tourism and Hospitality (Cookery)	84.2	19
Certificate & Achievement & Plumbing	100.0	6	Certificate & Welding and Metal Fabrication	83.3	30
Intermediate Certificate & Automotive Engineering	100.0	20	Certificate & Achievement & Computer Studies	83.3	6
Intermediate Certificate & Electrical Engineering	100.0	9	Diploma & Fine Arts	80.0	5
Intermediate Certificate & Plumbing and Sheet Metal	100.0	6	Certificate & Early Childhood Education	78.4	37
Intermediate Certificate & Refrigeration and Air-conditioning	100.0	10	Certificate & Achievement & Automotive Engineering	77.8	9
Diploma & Tourism	97.3	37	Certificate & Plumbing and Sheet Metal	75.0	8
Diploma & Office Management	97.2	36	Certificate & Achievement & Carpentry and Joinery	75.0	4
Certificate & Computer Operating	94.0	50	Diploma & Computer and Information Management	75.0	4
Intermediate Certificate & Construction and Joinery	92.3	13	Diploma & Office Administration	71.4	7
Certificate & Carpentry and Joinery	91.7	12	Diploma & Radio and Electronics	70.0	10
Certificate & Office Administration	90.0	10	Certificate & Pre Trade Life Skills	63.3	90
Diploma & Media and Journalism	90.0	10	Certificate & Fine Arts	60.0	5
Certificate & Achievement & Food and Textiles Technology	89.5	19	Certificate & Achievement & Fine Arts	60.0	5
Certificate & Tourism and Hospitality (Tour Guiding)	88.9	18	Certificate & General Studies	50.0	2
Intermediate Certificate & Fitting and Machining	88.9	9	Certificate & Office Skills and Computing	50.0	30
Diploma & Business	88.3	60	Certificate & Achievement & Welding and Fabrication	50.0	2
Certificate & Tourism and Hospitality (Food & Beverage)	87.5	16	Certificate & Commerce (Management)	45.5	11
Certificate & Achievement & Electrical Engineering	87.5	8	Diploma & Office Administration and Computing Skills	45.0	20
Certificate & Motor Mechanics	87.0	23	Certificate & Maritime Training (Nautical)	42.9	35
Certificate & Tourism and Hospitality (Front Office & Administration)	86.4	22	Certificate & Panel Beating and Spray Painting	42.9	7
Intermediate Certificate & Welding and Metal Fabrication	85.7	7	Certificate & Computer and Information Management	14.3	7
Certificate & Tropical Horticulture	84.4	32	Diploma & Computing	0.0	3
			Total	78.4	802

Annex 4: Main activities of respondents answering the question: ‘what are you doing now?’ number & percent

Main type of activity doing now	Frequency	Percent
Work for pay for an employer	451	56.2
Work for yourself to earn money (pisinisi faatau savali eg afitusi, nusipepa, etc)	17	2.1
Run your own licensed business (eg shop, taxi)	8	1.0
Producing food for sale or own use eg kapisi, taui’a	6	0.7
Do unpaid work in the family business	10	1.2
Do other unpaid work eg for a church, housework	143	17.8
Looking for a job (sending applications, going to interviews)	36	4.5
Want a job but have given up looking for work	20	2.5
Doing further studies	110	13.7
Not able to work due to illness or special needs	1	0.1
Other (please say)	0	0
	802	100

Annex 5: Main activities of respondents answering the question: ‘what are you doing now?’ males & females, number & percent

Main type of activity doing now	Male	Percent	Female	Percent
Work for pay for an employer	257	53.2	194	60.8
Work for yourself to earn money (pisinisi faatau savali eg afitusi, nusipepa, etc)	14	2.9	3	0.9
Run your own licensed business (eg shop, taxi)	6	1.2	2	0.6
Producing food for sale or own use eg kapisi, tauia	5	1.0	1	0.3
Do unpaid work in the family business	4	0.8	6	1.9
Do other unpaid work eg for a church, house work	83	17.2	60	18.8
Looking for a job (sending applications, going to interviews)	21	4.3	15	4.7
Want a job but have given up looking for work	10	2.1	10	3.1
Doing further studies	83	17.2	27	8.5
Not able to work due to illness or special needs		0.0	1	0.3
	483	100.0	319	100.0

Annex 6: Proportion of graduates of specific qualifications who are now employed

Qualification	percent employed	N in cohort
Diploma in Media and Journalism	100	10
Diploma in Office Management or Document Production	83	36
Diploma in Office Administration Management, Computing Skills, Info Management, Education Assessment	78	37
Certificate of Achievement in Master Class 5 Nautical or Maritime Training (including seafarers overseas)	76	34
Diploma in Business	75	60
Certificate of Achievement in Master Class 5 Nautical or Maritime Training	73	30
Certificate in Computer Operating	72	50
Certificate of Achievement in Computer Studies, Office Administration Management, Library	69	74
Certificate in Early Childhood Education	65	37
Diploma in Tourism	65	37
Diploma in Radio and Electronics	60	10
Intermediate Certificate in Building & Engineering Trades	59	94
Certificate Automotive Engineering, Panel Beating, Spray Painting	52	58
Certificates in Tourism and Hospitality – various	45	75
Certificate in Agriculture or Tropical Horticulture	44	32
Certificate in Welding and Metal Fabrication	40	30
Certificate of Achievement in Food and Textiles Technology	24	17
Diploma or Certificate in Fine Arts	24	17
Certificate in Pre Trade Life Skills Programme	12	90

Annex 7: Graduates in work now by sector of employment, percent for each Institute

	Business	Government	NGO	Other	Overseas	Total	N
AIOT	57.1	23.8	14.3	4.8		100	21
DBTC	79.2	18.8	2.1	0.0		100	48
LPTC	81.0	19.0	0.0	0.0		100	21
NCECES	20.8	41.7	37.5	0.0		100	24
NUS	39.9	53.5	4.2	1.4	1.0	100	288
TIAS	53.8	28.2	12.8	5.1		100	39

Annex 8: Average income and income range for graduates in work by qualification

Qualification	Mean income	No employed	Minimum	Maximum
Diploma in Business	328	45	114	750
Diploma in Media and Journalism	316	10	150	650
Diploma in Office Administration Management, Computing, Skills Info Management, & Education Assessment	315	29	100	1,031
Certificate of Achievement in Master Class 5 Nautical or Maritime Training	311	22	120	700
Certificate of Achievement in Computer Studies, Office Administration Management, Library	308	51	100	1,500
Certificate in Agriculture or Tropical Horticulture	292	14	100	539
Diploma in Radio and Electronics	288	6	120	500
Certificate in Computer Operating	274	36	125	583
Intermediate Certificate in Building & Engineering Trades	264	55	80	675
Diploma in Tourism	262	24	100	500
Diploma in Office Management or Document Production	244	30	100	465
Certificate Auto Engineering, Panel Beating, Spray Painting	235	30	110	800
Certificate of Achievement in Food and Textiles Technology	229	4	150	400
Certificate in Welding and Metal Fabrication	213	12	120	460
Certificate in Tourism and Hospitality – various	212	34	100	400
Certificate in Pre Trade Life Skills Programme	185	11	128	300
Diploma or Certificate in Fine Arts	165	4	90	250
Certificate in Early Childhood Education	159	24	65	370

Annex 9: Employment outcomes of TVET graduates of the main PSET providers, percent

	Current student	Not working	Working	Total	N
AIOT	3.3	16.7	80.0	100	30
NCECES	5.4	24.3	70.3	100	37
TIAS	3.5	28.1	68.4	100	57
NUS	10.9	21.6	67.5	100	440
LPTC	1.6	57.1	41.3	100	63
DBTC	34.0	31.4	34.6	100	159
Total	13.7	26.7	59.6	100	802