OMDT: Online Mathematics Diagnostic Tool Report – 2019

1.0 Introduction

The University of the South Pacific (USP) is a regional multi-campus institution operating since 1968 populating its 14 campuses and 10 centers spread in its 12 member countries over an area of 30 million square kilometers of the Pacific Ocean. The university is constituted to make premium higher education available to all its member countries. However, together with factors such as the geographical spread of the member countries, English being the 2nd or even 3rd language, under qualified teachers, untrained teachers and lack of localized text, the non-uniform secondary school education of its students heavily impact the university's aspiration of quality education for all. The latter invariably affects the student retention which currently averages around 70% at the first year level. To address this issue the Faculty of Science, Technology and Environment (FSTE) works to include effective and efficient pedagogical tools and technologies, mostly designing in-house so that these are customized and contextualized for its unique eduscape in the Pacific region.

Students come to USP with different level of mathematics skills. Thus to ensure that students begin their first year degree courses on an equal platform, the University has developed the Online Mathematics Diagnostic Tool (OMDT) to bridge numeracy gaps from secondary to tertiary education. This is very important to the university as most of its courses require some knowledge of mathematics.

This new cutting-edge pedagogical tool, timely diagnoses knowledge gaps of its first year students which come from different countries in the Pacific region, and based on their individual performances, it automatically directs students to relevant remedial and corrective measures. The tool has built-in certification, rewards through gamification, surveys and analytics, support mechanisms, and online remedial modules crafted into a complete package.

Below is the summary of the 2017 Semester 1 OMDT (OMDT1 and OMDT2) result from different campus and Modules.

Note that OMDT1 is for Science students and OMDT2 is for Non-Science students.

2.0 Product

The OMDT is an intelligent ICT enabled tool designed to diagnose students' weaknesses in different areas of mathematics and directs them to relevant online remediation based on their online test performance, i.e. automated pathways. The OMDT is an online tool housed on the Moodle platform. This test comprises 40 multiple choice questions, 8 from each 5 modules, which are randomly generated from 5 bank of 1500 questions in total. The 5 banks are of 5 different topics, namely; Algebra, Integration, Differentiation, Functions and Statistics & Probability most of which have already been covered during secondary level studies. Each bank is divided into sub banks of easy, intermediate and advance questions. Difficult level is different in OMDT1 and OMDT2, OMDT1 quiz is made up of 4 easy, 2 intermediate and 2 advance questions where as OMDT2 quiz is made up of 6 easy and 2 intermediate and are randomly generated.

There is also an OMDT for general public (OMDT3), where anyone can do the OMDT from anywhere with their Facebook or Gmail logins.

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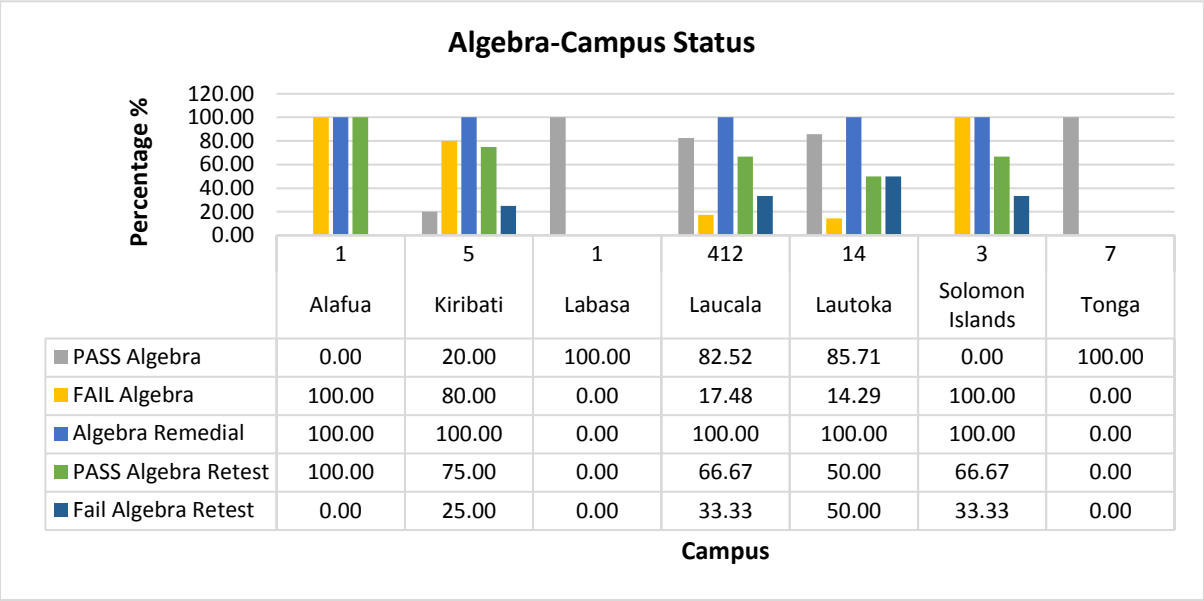
3.0 Accessibility & Features

- To access the OMDT users need to go to the OMDT website: www.omdt.usp.ac.fj. Features includes:
- Conditional activities-this feature ensures that students go through all the processes and activities in the tool. For example, students are required to read the instructions and only then will the online test open up. Students first have to complete the first module test and only then will the second module test open up. At the end of the test and retest, students are required to fill in the students' feedback questionnaire as a condition for receiving their certificates, transcript and badge.
- Progress tracking –students can view the progress bar to track their progress
- Badge, certificate and transcript – Upon completing the OMDT each student receive a badge, certificate and a transcript. There are four categories for the certificate: Distinction, Credit, Pass and Participation.

4.1. OMDT1 Analysis

4.1.1 Campus Algebra Status

The graph below shows the percentage of students did Algebra Module per campus.

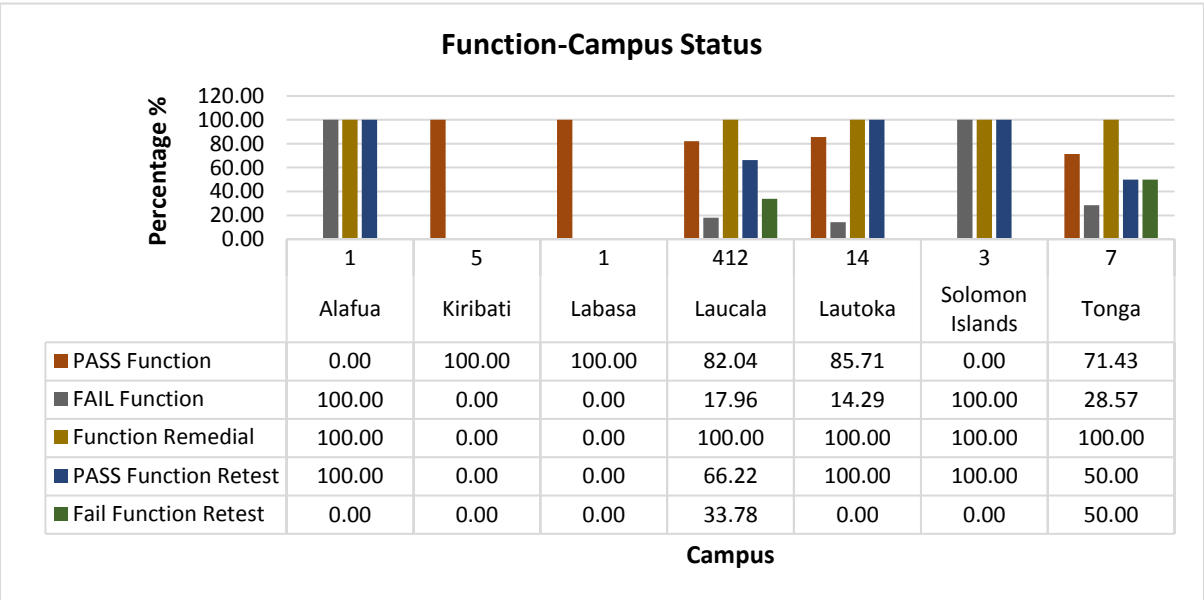


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS Algebra	0.00	20.00	100.00	82.52	85.71	0.00	100.00
FAIL Algebra	100.00	80.00	0.00	17.48	14.29	100.00	0.00
Algebra Remedial	100.00	100.00	0.00	100.00	100.00	100.00	0.00
PASS Algebra Retest	100.00	75.00	0.00	66.67	50.00	66.67	0.00
Fail Algebra Retest	0.00	25.00	0.00	33.33	50.00	33.33	0.00

A total of 412 students did Algebra module. The pass rate of algebra module is more than 50%. Students are required to do the remedial if they fail the module, from the graph, percentage attempted the remedial is 100%. Student who did remedial and did the algebra module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 82.52% students pass the algebra test. From 17.48% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 66.67% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

4.1.2 Campus Function Status

The graph below shows the percentage of students did Function Module per campus.

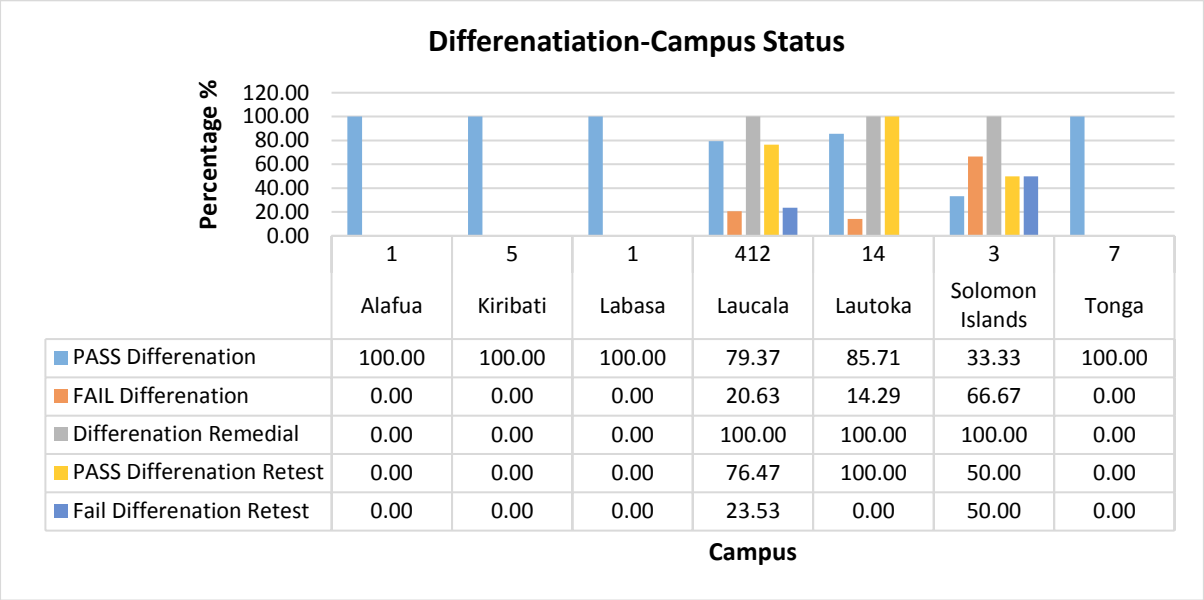


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS Function	0.00	100.00	100.00	82.04	85.71	0.00	71.43
FAIL Function	100.00	0.00	0.00	17.96	14.29	100.00	28.57
Function Remedial	100.00	0.00	0.00	100.00	100.00	100.00	100.00
PASS Function Retest	100.00	0.00	0.00	66.22	100.00	100.00	50.00
Fail Function Retest	0.00	0.00	0.00	33.78	0.00	0.00	50.00

The pass rate of Function module in majority campus is more than 50%. From the graph, percentage attempted the remedial is more than 100% of failed. Student who did remedial and did the function module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 82.04% students pass the function test. From 17.96% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 66.22% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

4.1.3 Campus Differentiation Status

The graph below shows the percentage of students did Differentiation Module per campus.

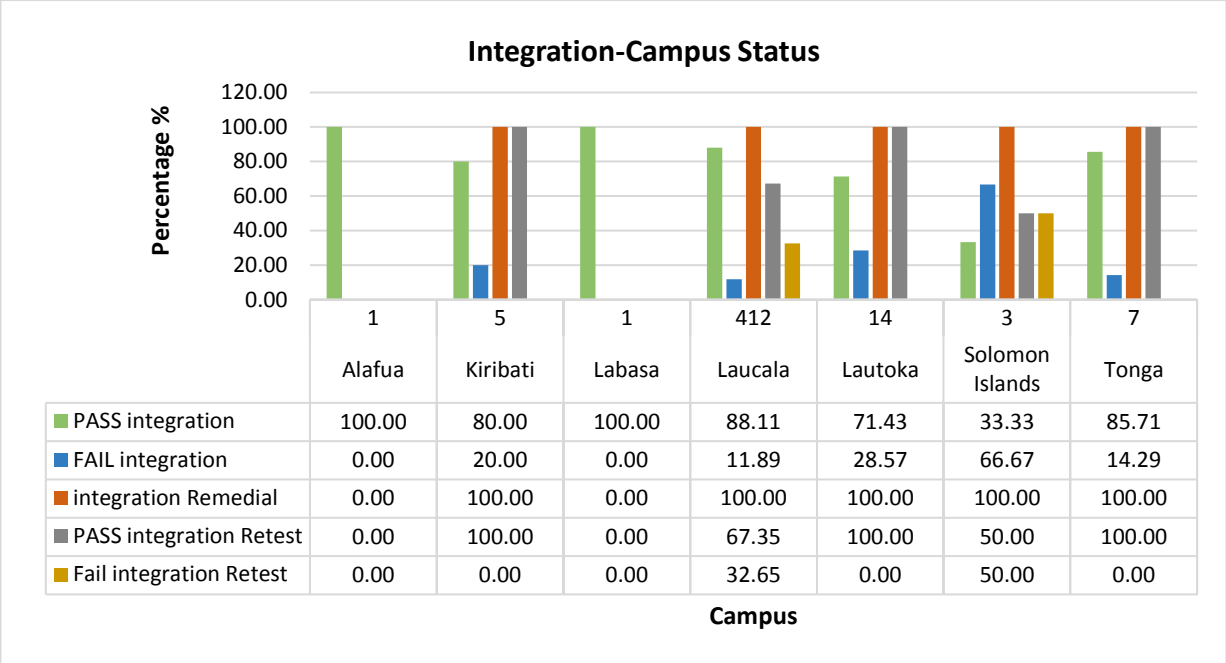


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS Differenation	100.00	100.00	100.00	79.37	85.71	33.33	100.00
FAIL Differenation	0.00	0.00	0.00	20.63	14.29	66.67	0.00
Differenation Remedial	0.00	0.00	0.00	100.00	100.00	100.00	0.00
PASS Differenation Retest	0.00	0.00	0.00	76.47	100.00	50.00	0.00
Fail Differenation Retest	0.00	0.00	0.00	23.53	0.00	50.00	0.00

The pass rate of Differentiation module in majority campus is more than 50%. From the graph, percentage attempted the remedial is more than 100% of failed. Student who did remedial and did the Differentiation module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 79.37% students pass the Differentiation test. From 20.63% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 76.47% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

4.1.4 Campus Integration Status

The graph below shows the percentage of students did Integration Module per campus.

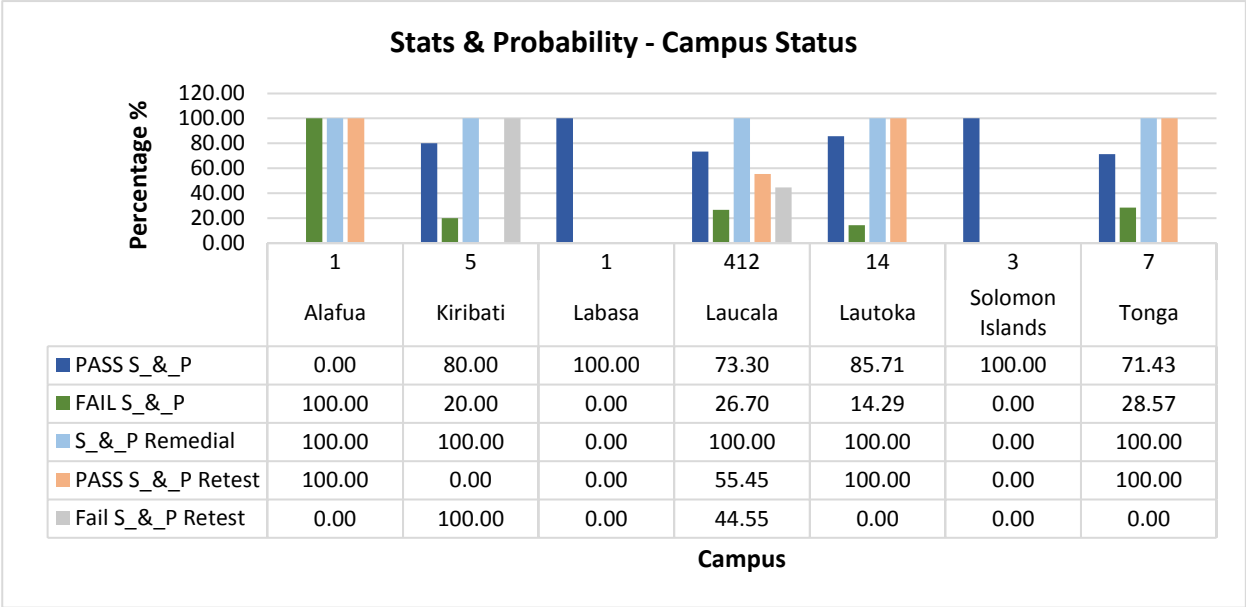


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS integration	100.00	80.00	100.00	88.11	71.43	33.33	85.71
FAIL integration	0.00	20.00	0.00	11.89	28.57	66.67	14.29
integration Remedial	0.00	100.00	0.00	100.00	100.00	100.00	100.00
PASS integration Retest	0.00	100.00	0.00	67.35	100.00	50.00	100.00
Fail integration Retest	0.00	0.00	0.00	32.65	0.00	50.00	0.00

The pass rate of Integration module in majority campus is more than 50%. From the graph, percentage attempted the remedial is more than 100% of failed. Student who did remedial and did the Integration module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 88.11% students pass the Integration test. From 11.89% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 67.35% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

4.1.5 Campus Stats & Probability Status

The graph below shows the percentage of students did Stats & Probability Module per campus.

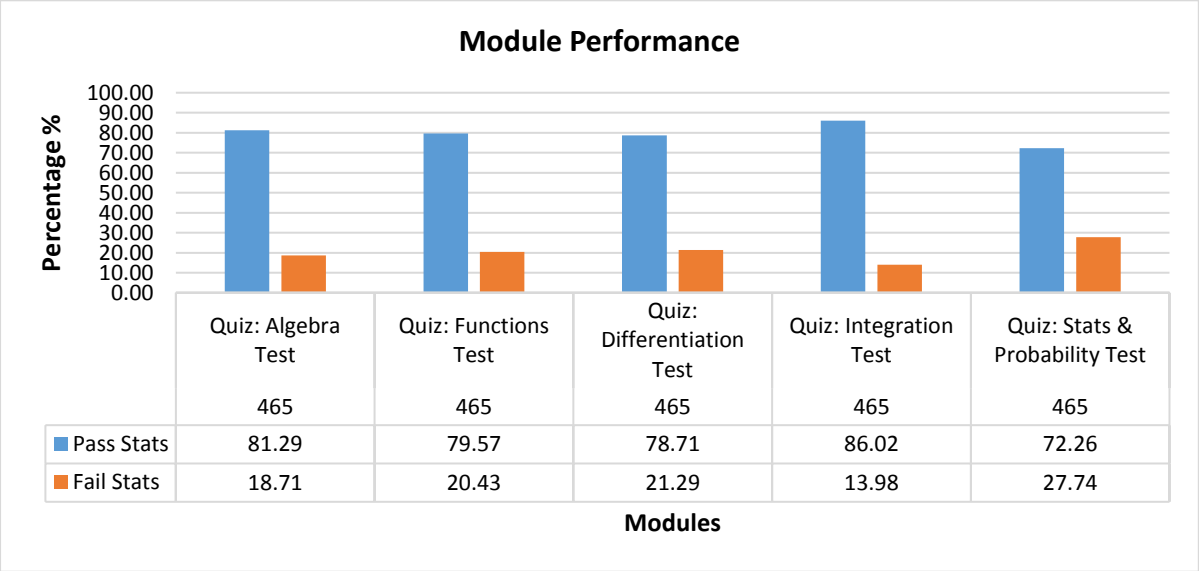


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS S_&_P	0.00	80.00	100.00	73.30	85.71	100.00	71.43
FAIL S_&_P	100.00	20.00	0.00	26.70	14.29	0.00	28.57
S_&_P Remedial	100.00	100.00	0.00	100.00	100.00	0.00	100.00
PASS S_&_P Retest	100.00	0.00	0.00	55.45	100.00	0.00	100.00
Fail S_&_P Retest	0.00	100.00	0.00	44.55	0.00	0.00	0.00

The pass rate of Stats & Probability module in majority campus is more than 50%. From the graph, percentage attempted the remedial is more than 100% of failed. Student who did remedial and did the Stats & Probability module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 73.30% students pass the Stats & Probability test. From 26.70% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 55.45% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

4.1.6 Module Performance Status

The graph below shows the Module Test performance percentage per Campus.

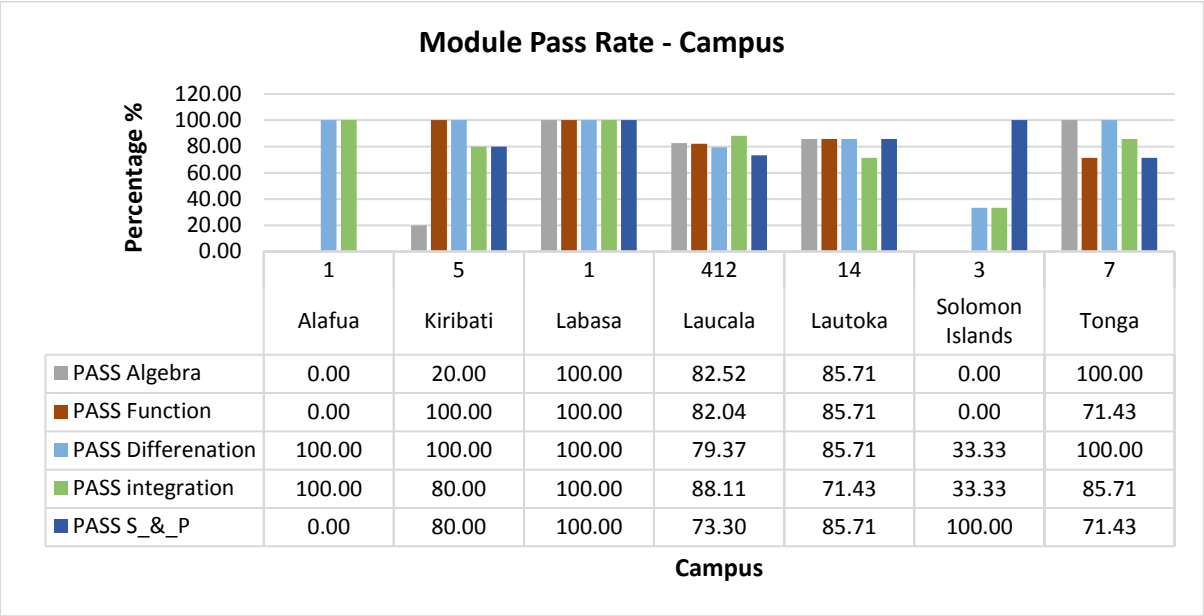


	Quiz: Algebra Test	Quiz: Functions Test	Quiz: Differentiation Test	Quiz: Integration Test	Quiz: Stats & Probability Test
	465	465	465	465	465
Pass Stats	81.29	79.57	78.71	86.02	72.26
Fail Stats	18.71	20.43	21.29	13.98	27.74

Pass performance rate per module is more than 50% in all 5 modules. From above data, Stats and Probability modules has the least pass rate compared to other 4 modules. It can also be concluded at students find difficulties in Stats and Probability.

4.1.7 Campus Module Status

The graph below shows the Module Test performance percentage per Campus.



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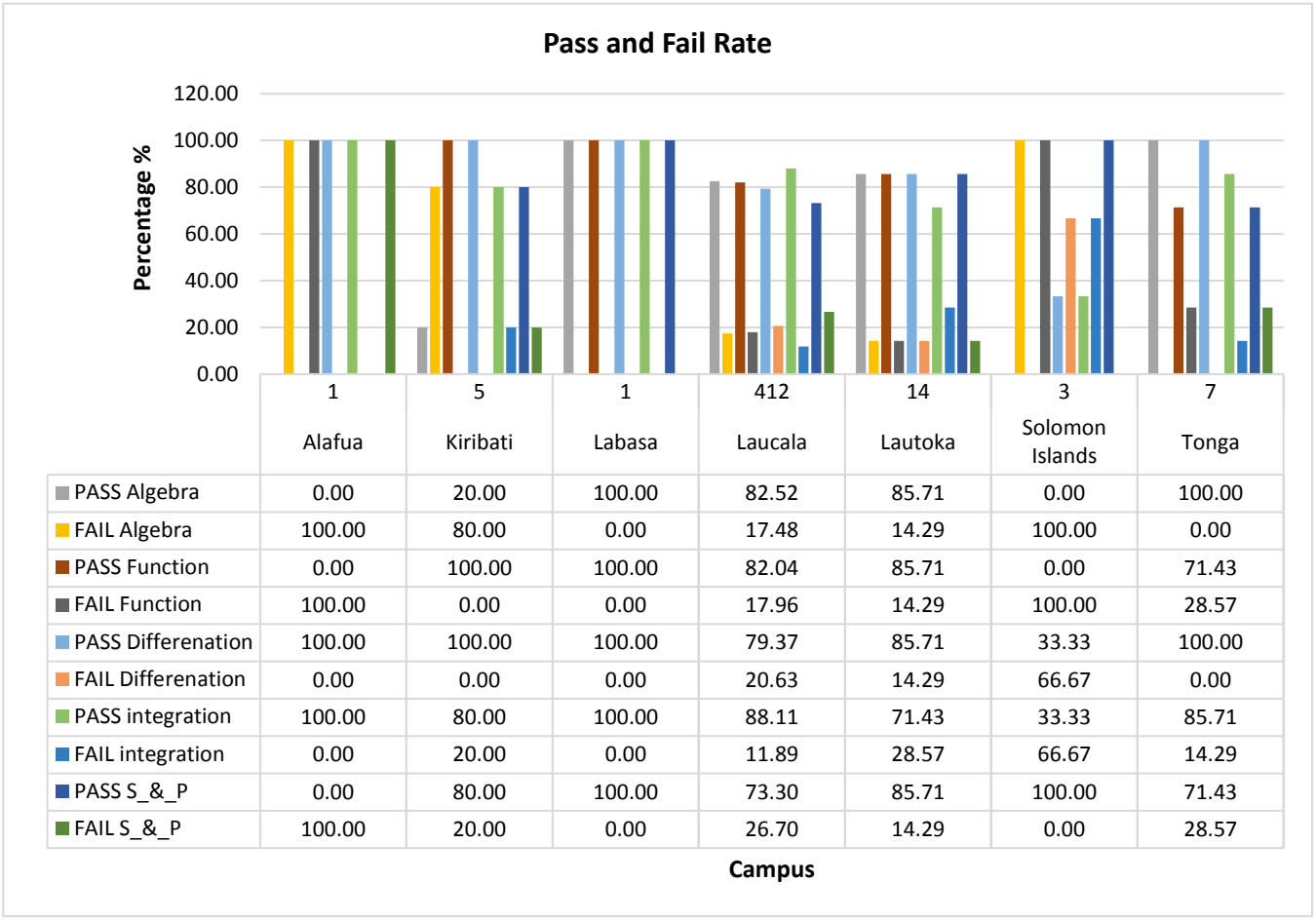
PASS Function	0.00	100.00	100.00	82.04	85.71	0.00	71.43
PASS Differenation	100.00	100.00	100.00	79.37	85.71	33.33	100.00
PASS integration	100.00	80.00	100.00	88.11	71.43	33.33	85.71
PASS S_&_P	0.00	80.00	100.00	73.30	85.71	100.00	71.43

Campus

The Module pass rate per module with respect to different campus is more than 50%. For Laucala campus pass rate is more than 75%. Integration has the highest pass rate 88.11% and stats and Probability has the least 73.30% from all 5 modules.

4.1.8 Campus Pass and Fail Rate

The graph below shows the Pass and Fail percentage rate per Campus. The overall pass rate per module with respect to campus is more than the fail rate. Integration Module pass rate is higher than the rest of the 4 modules in majority of the campus, whereas the Stats and probability module has low pass rate in all the campus.



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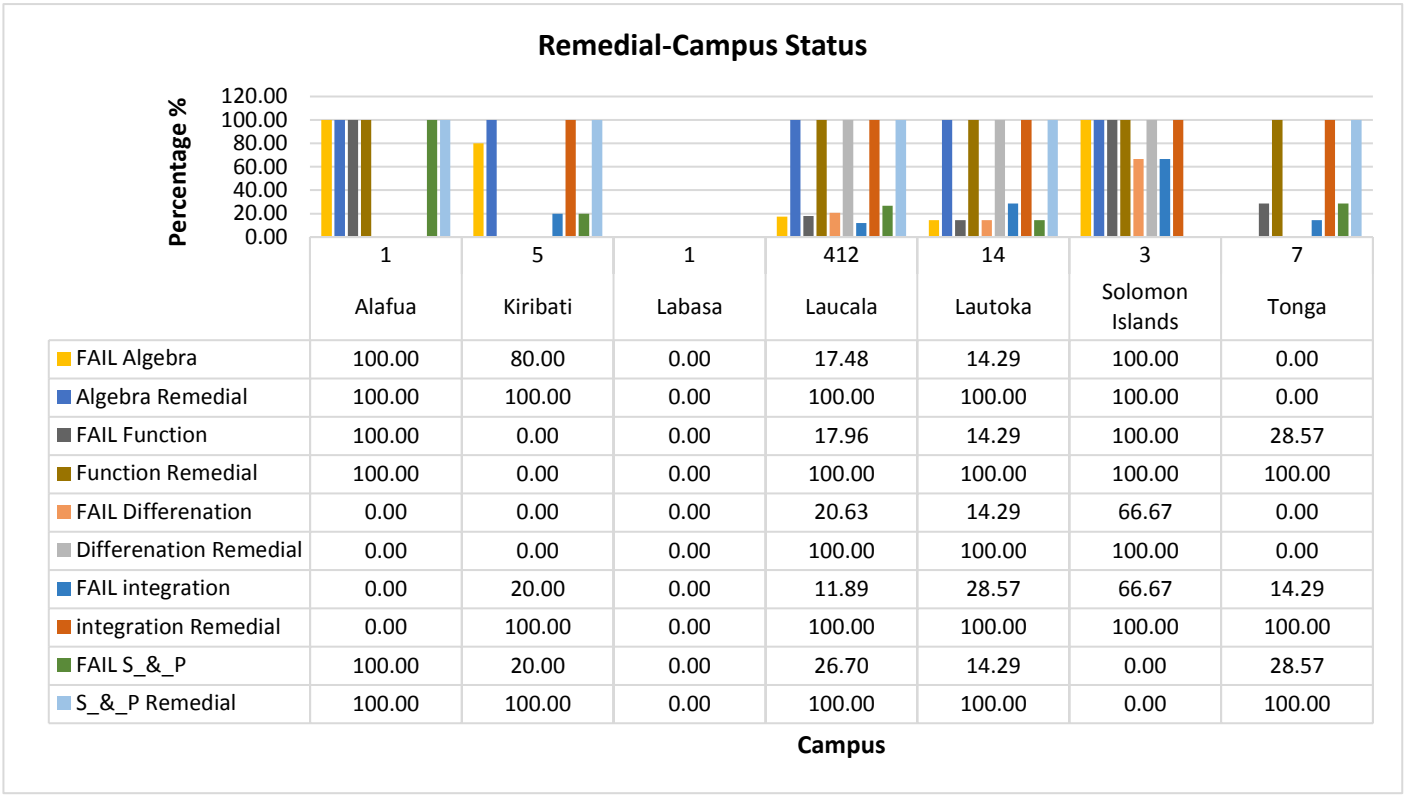
FAIL Differenation	0.00	0.00	0.00	20.63	14.29	66.67	0.00
PASS integration	100.00	80.00	100.00	88.11	71.43	33.33	85.71
FAIL integration	0.00	20.00	0.00	11.89	28.57	66.67	14.29
PASS S_&_P	0.00	80.00	100.00	73.30	85.71	100.00	71.43
FAIL S_&_P	100.00	20.00	0.00	26.70	14.29	0.00	28.57

Campus

4.1.9 Percentage Remedial – Campus Status

The graph above shows the Remedial percentage rate per Campus. The overall percentage student took remedial in various campus is more than 100% of the failed modules. It can be conclude that students who failed the modules have taken the remedial.



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Differenation Remedial	0.00	0.00	0.00	100.00	100.00	100.00	0.00
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integration Remedial	0.00	100.00	0.00	100.00	100.00	100.00	100.00
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Campus

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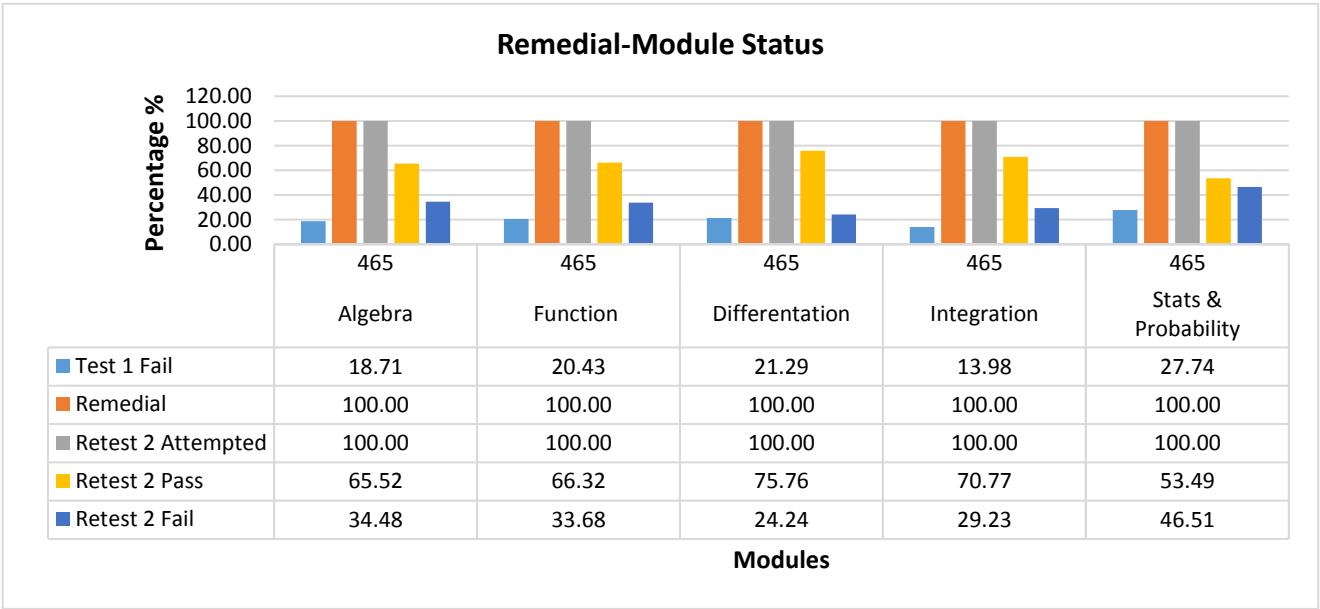
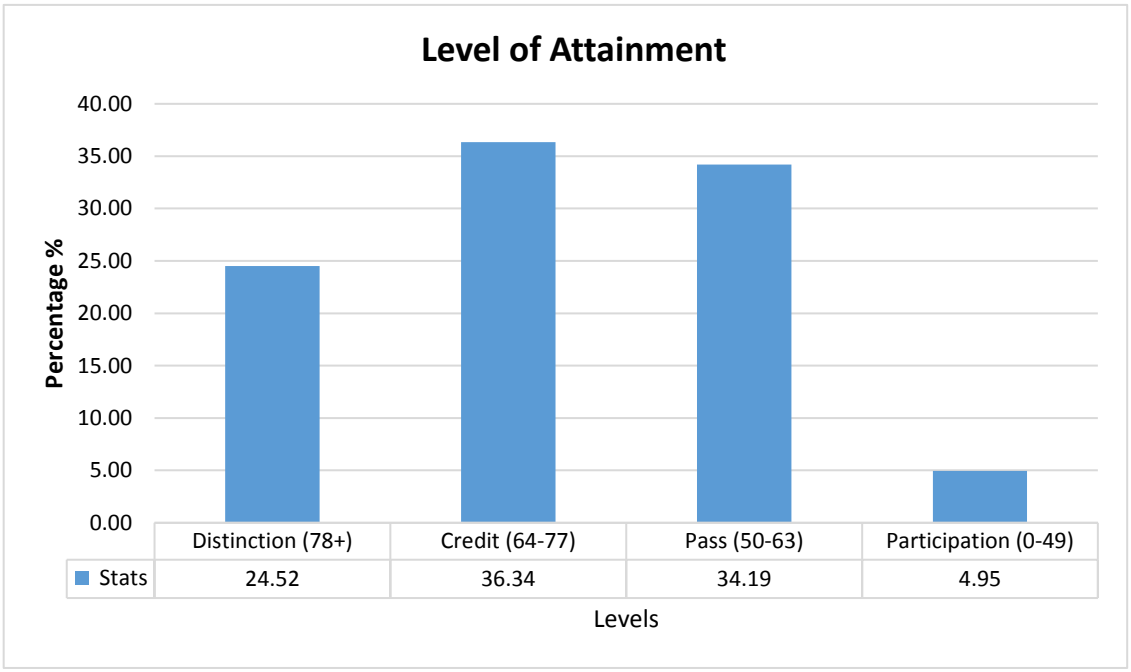


	465 Algebra	465 Function	465 Differentation	465 Integration	465 Stats & Probability
Test 1 Fail	18.71	20.43	21.29	13.98	27.74
Remedial	100.00	100.00	100.00	100.00	100.00
Retest 2 Attempted	100.00	100.00	100.00	100.00	100.00
Retest 2 Pass	65.52	66.32	75.76	70.77	53.49
Retest 2 Fail	34.48	33.68	24.24	29.23	46.51

Modules

4.1.11 Level of Attainment

The graph below shows the level of attainment of 465 students. 24.52% students scored more than 78, 36.34% scored between 67-77, 34.19% scored between 50-63 and 4.95% scored between 0-49. The data below is after student completed the OMDT with certificate. Student failed the OMDT1 is 4.95%.



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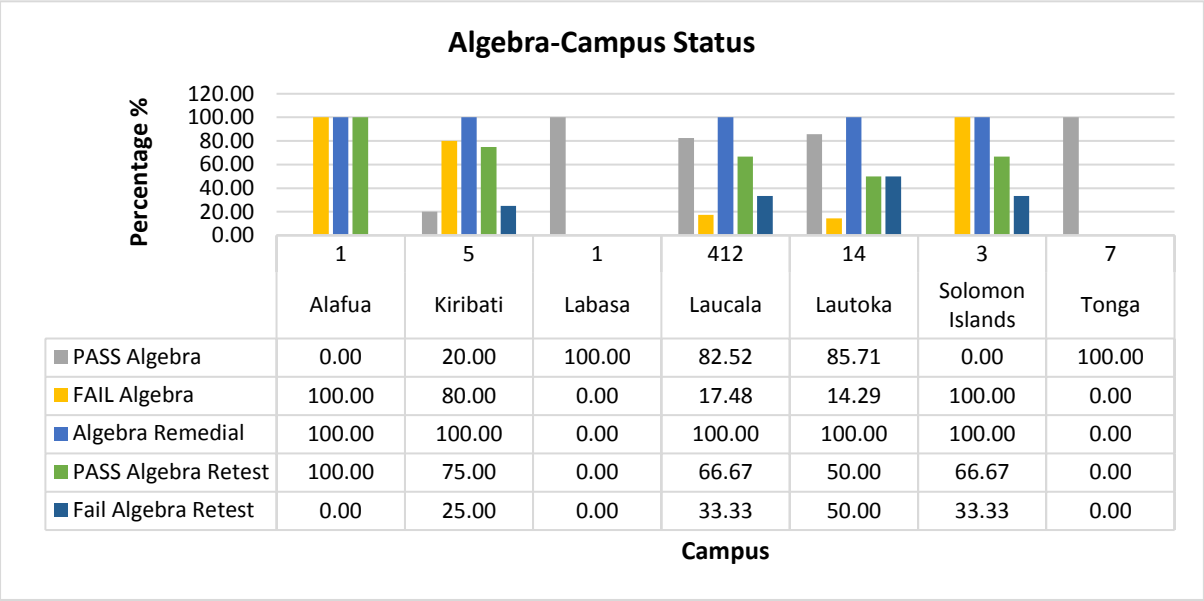

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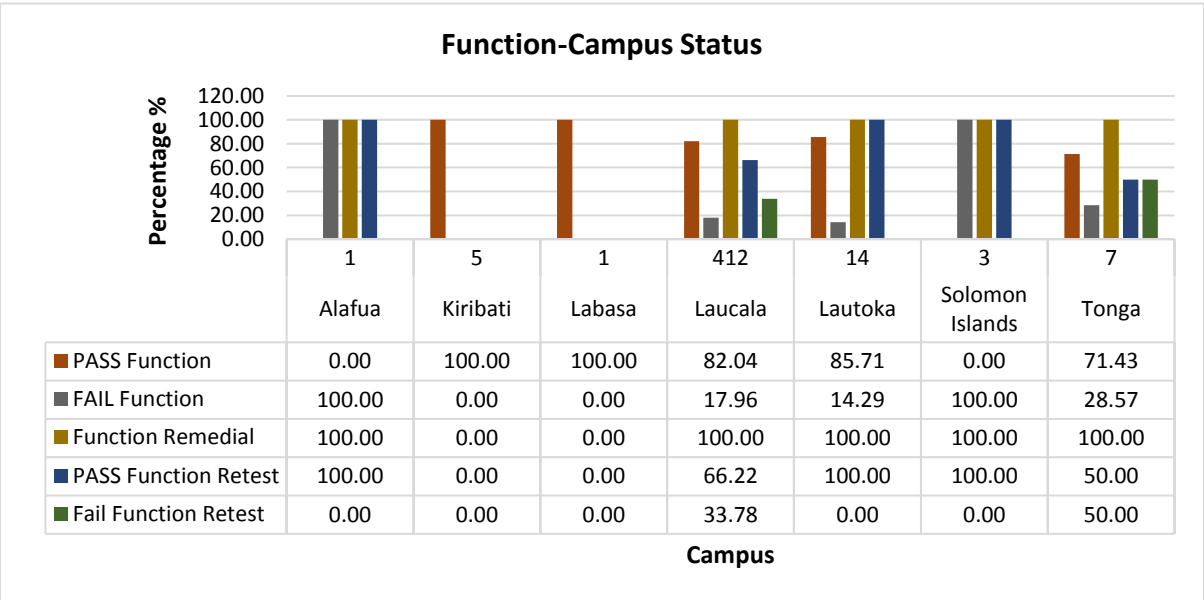

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PASS Function Retest	100.00	0.00	0.00	66.22	100.00	100.00	50.00
Fail Function Retest	0.00	0.00	0.00	33.78	0.00	0.00	50.00

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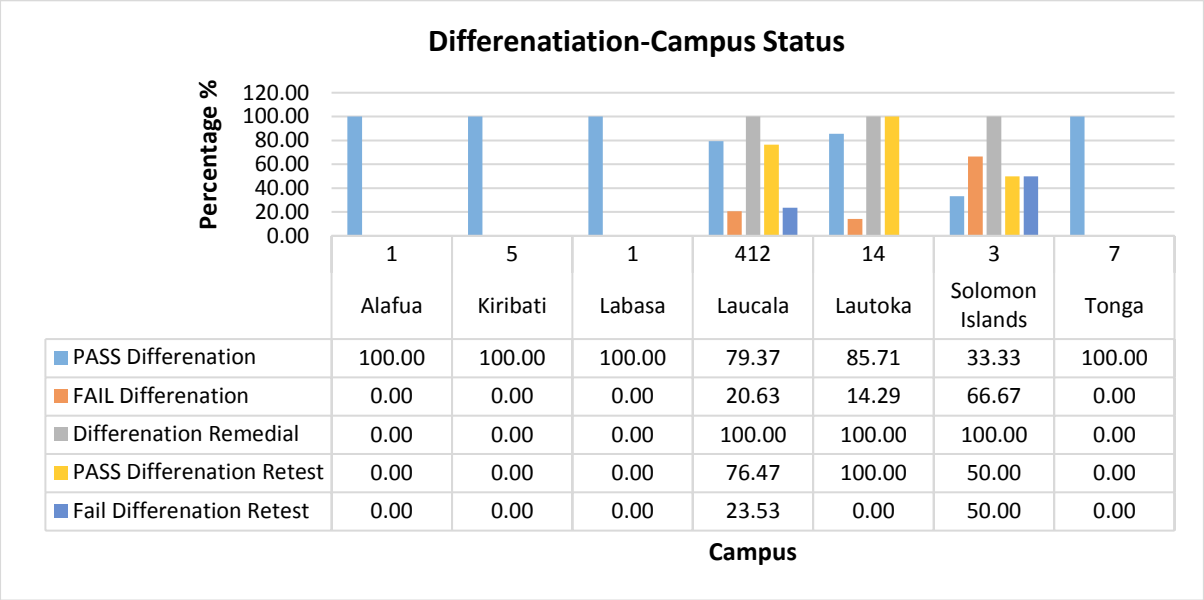


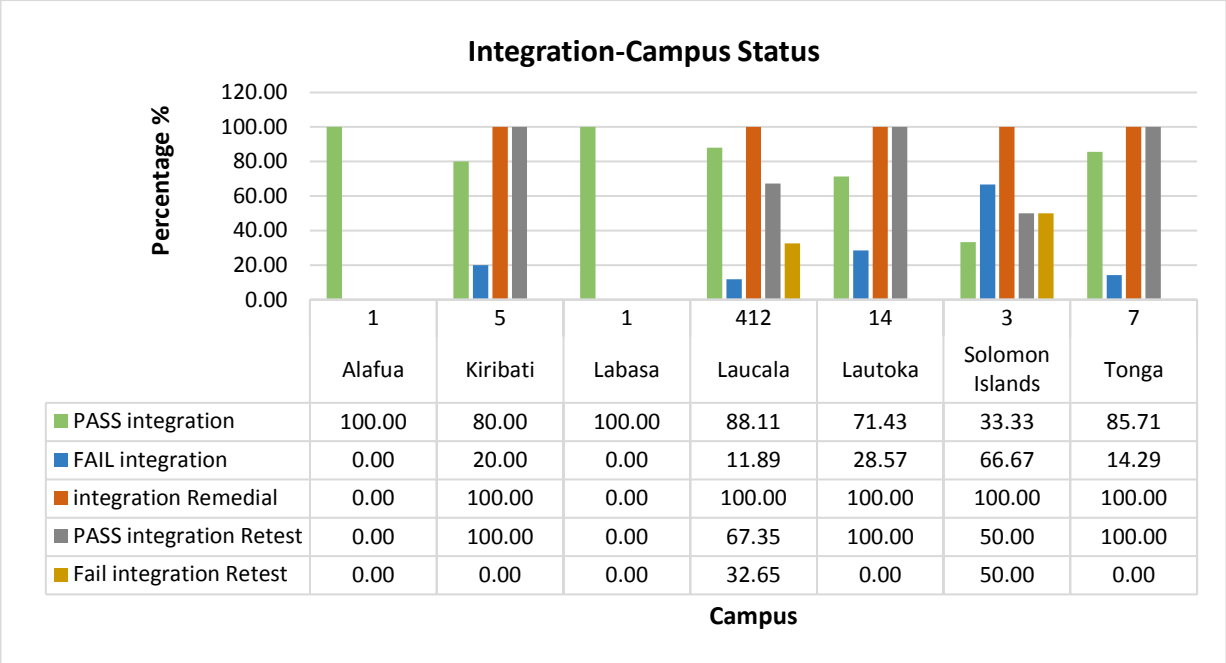
	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS Differenation	100.00	100.00	100.00	79.37	85.71	33.33	100.00
FAIL Differenation	0.00	0.00	0.00	20.63	14.29	66.67	0.00
Differenation Remedial	0.00	0.00	0.00	100.00	100.00	100.00	0.00
PASS Differenation Retest	0.00	0.00	0.00	76.47	100.00	50.00	0.00
Fail Differenation Retest	0.00	0.00	0.00	23.53	0.00	50.00	0.00

Campus

The pass rate of Differentiation module in majority campus is more than 50%. From the graph, percentage attempted the remedial is more than 100% of failed. Student who did remedial and did the Differentiation module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 79.37% students pass the Differentiation test. From 20.63% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 76.47% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

4.1.4 Campus Integration Status

The graph below shows the percentage of students did Integration Module per campus.

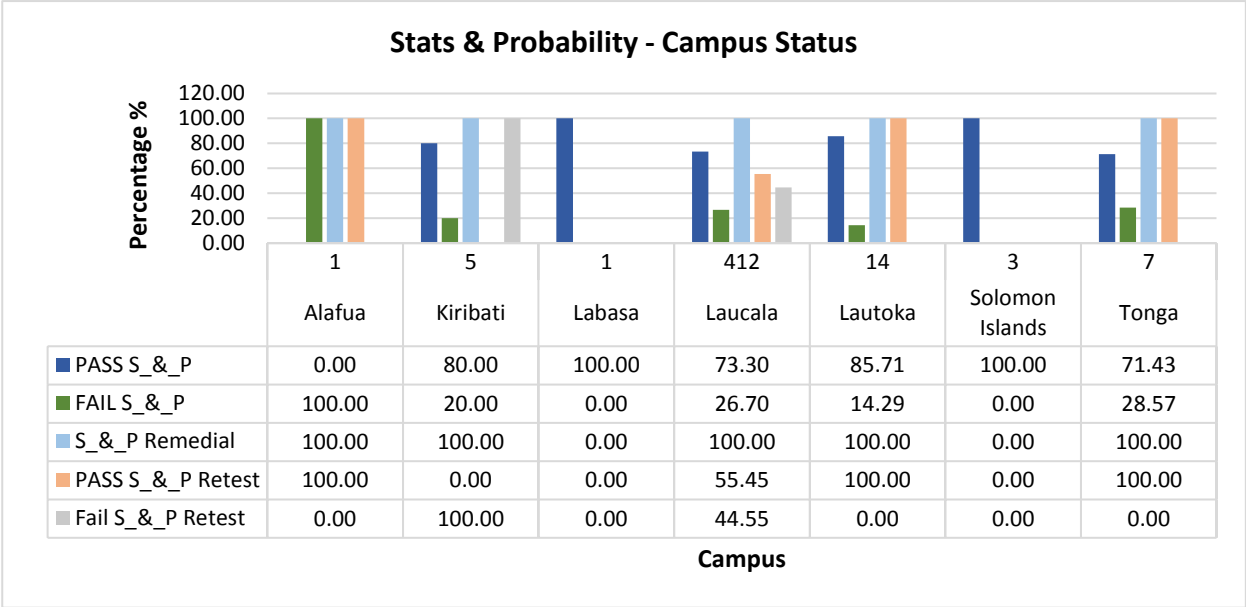


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS integration	100.00	80.00	100.00	88.11	71.43	33.33	85.71
FAIL integration	0.00	20.00	0.00	11.89	28.57	66.67	14.29
integration Remedial	0.00	100.00	0.00	100.00	100.00	100.00	100.00
PASS integration Retest	0.00	100.00	0.00	67.35	100.00	50.00	100.00
Fail integration Retest	0.00	0.00	0.00	32.65	0.00	50.00	0.00

The pass rate of Integration module in majority campus is more than 50%. From the graph, percentage attempted the remedial is more than 100% of failed. Student who did remedial and did the Integration module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 88.11% students pass the Integration test. From 11.89% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 67.35% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

4.1.5 Campus Stats & Probability Status

The graph below shows the percentage of students did Stats & Probability Module per campus.

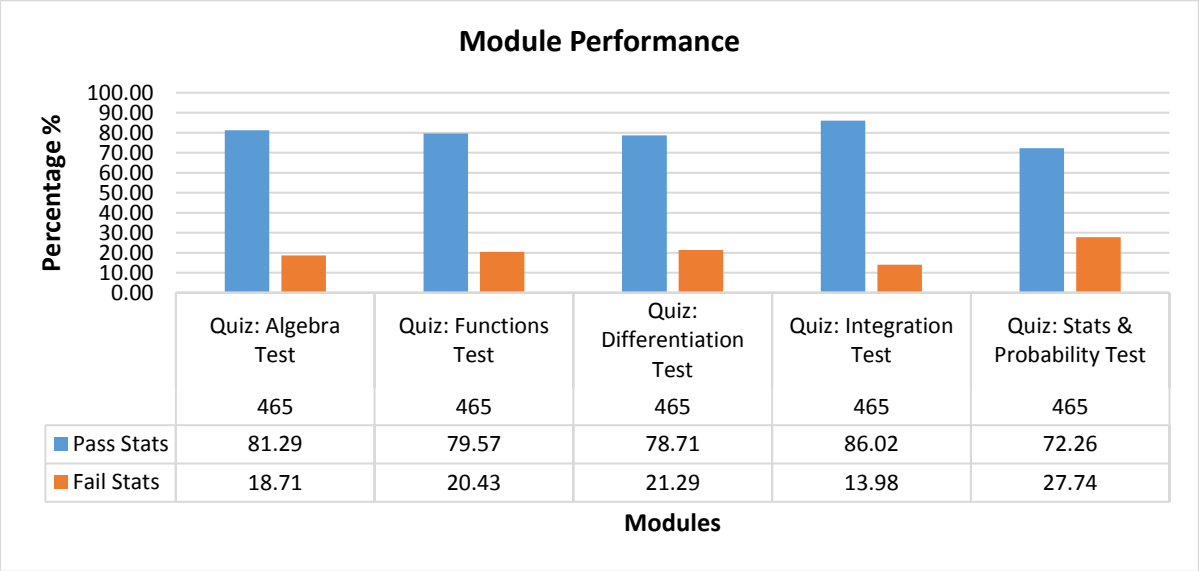


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS S_&_P	0.00	80.00	100.00	73.30	85.71	100.00	71.43
FAIL S_&_P	100.00	20.00	0.00	26.70	14.29	0.00	28.57
S_&_P Remedial	100.00	100.00	0.00	100.00	100.00	0.00	100.00
PASS S_&_P Retest	100.00	0.00	0.00	55.45	100.00	0.00	100.00
Fail S_&_P Retest	0.00	100.00	0.00	44.55	0.00	0.00	0.00

The pass rate of Stats & Probability module in majority campus is more than 50%. From the graph, percentage attempted the remedial is more than 100% of failed. Student who did remedial and did the Stats & Probability module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 73.30% students pass the Stats & Probability test. From 26.70% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 55.45% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

4.1.6 Module Performance Status

The graph below shows the Module Test performance percentage per Campus.

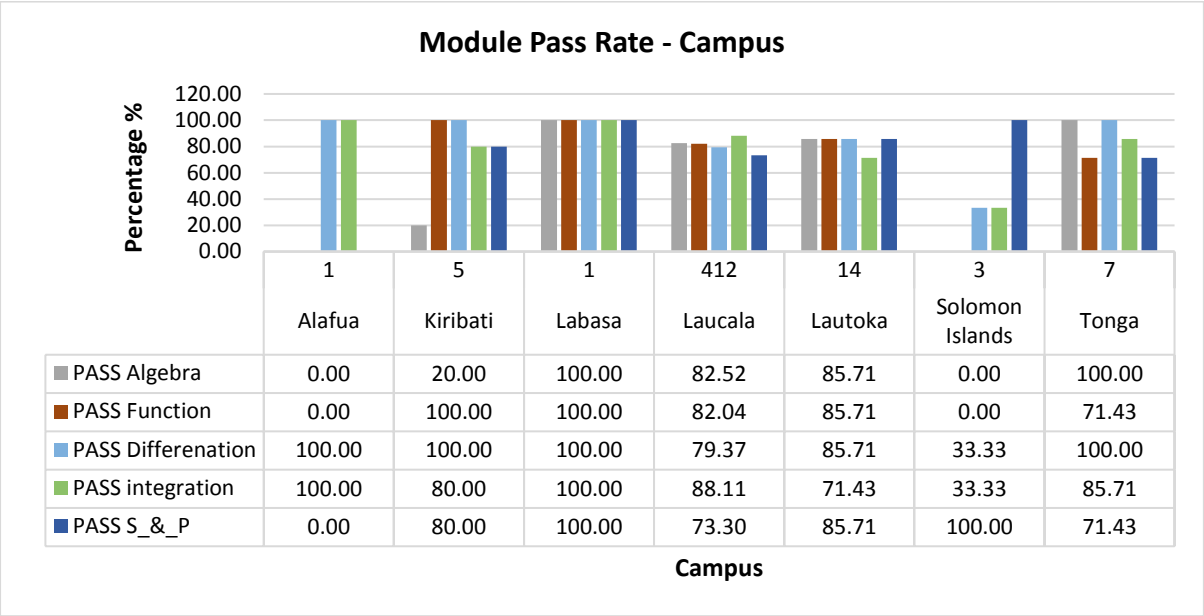


	Quiz: Algebra Test	Quiz: Functions Test	Quiz: Differentiation Test	Quiz: Integration Test	Quiz: Stats & Probability Test
	465	465	465	465	465
Pass Stats	81.29	79.57	78.71	86.02	72.26
Fail Stats	18.71	20.43	21.29	13.98	27.74

Pass performance rate per module is more than 50% in all 5 modules. From above data, Stats and Probability modules has the least pass rate compared to other 4 modules. It can also be concluded at students find difficulties in Stats and Probability.

4.1.7 Campus Module Status

The graph below shows the Module Test performance percentage per Campus.

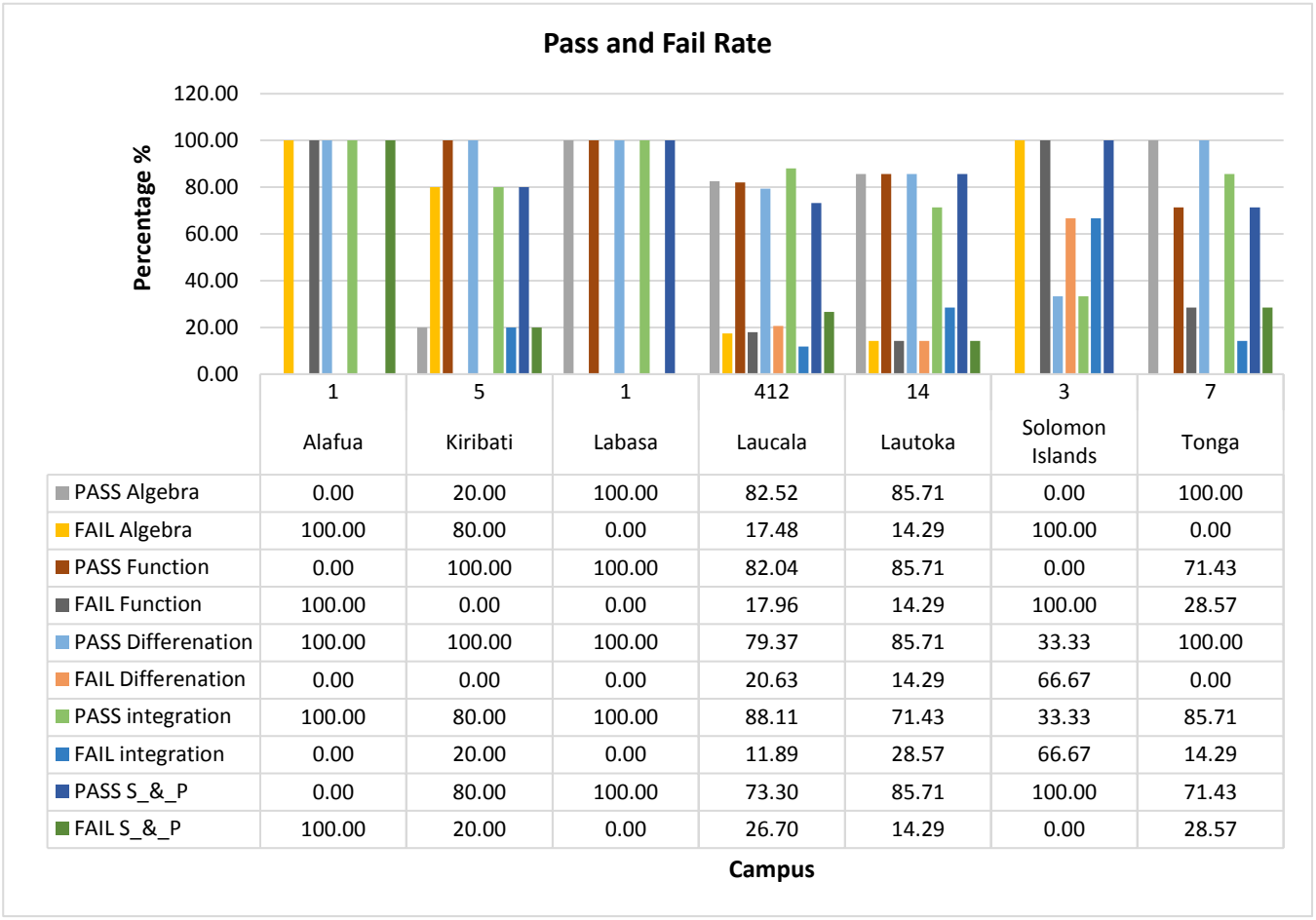


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS Algebra	0.00	20.00	100.00	82.52	85.71	0.00	100.00
PASS Function	0.00	100.00	100.00	82.04	85.71	0.00	71.43
PASS Differenation	100.00	100.00	100.00	79.37	85.71	33.33	100.00
PASS integration	100.00	80.00	100.00	88.11	71.43	33.33	85.71
PASS S_&_P	0.00	80.00	100.00	73.30	85.71	100.00	71.43

The Module pass rate per module with respect to different campus is more than 50%. For Laucala campus pass rate is more than 75%. Integration has the highest pass rate 88.11% and stats and Probability has the least 73.30% from all 5 modules.

4.1.8 Campus Pass and Fail Rate

The graph below shows the Pass and Fail percentage rate per Campus. The overall pass rate per module with respect to campus is more than the fail rate. Integration Module pass rate is higher than the rest of the 4 modules in majority of the campus, whereas the Stats and probability module has low pass rate in all the campus.

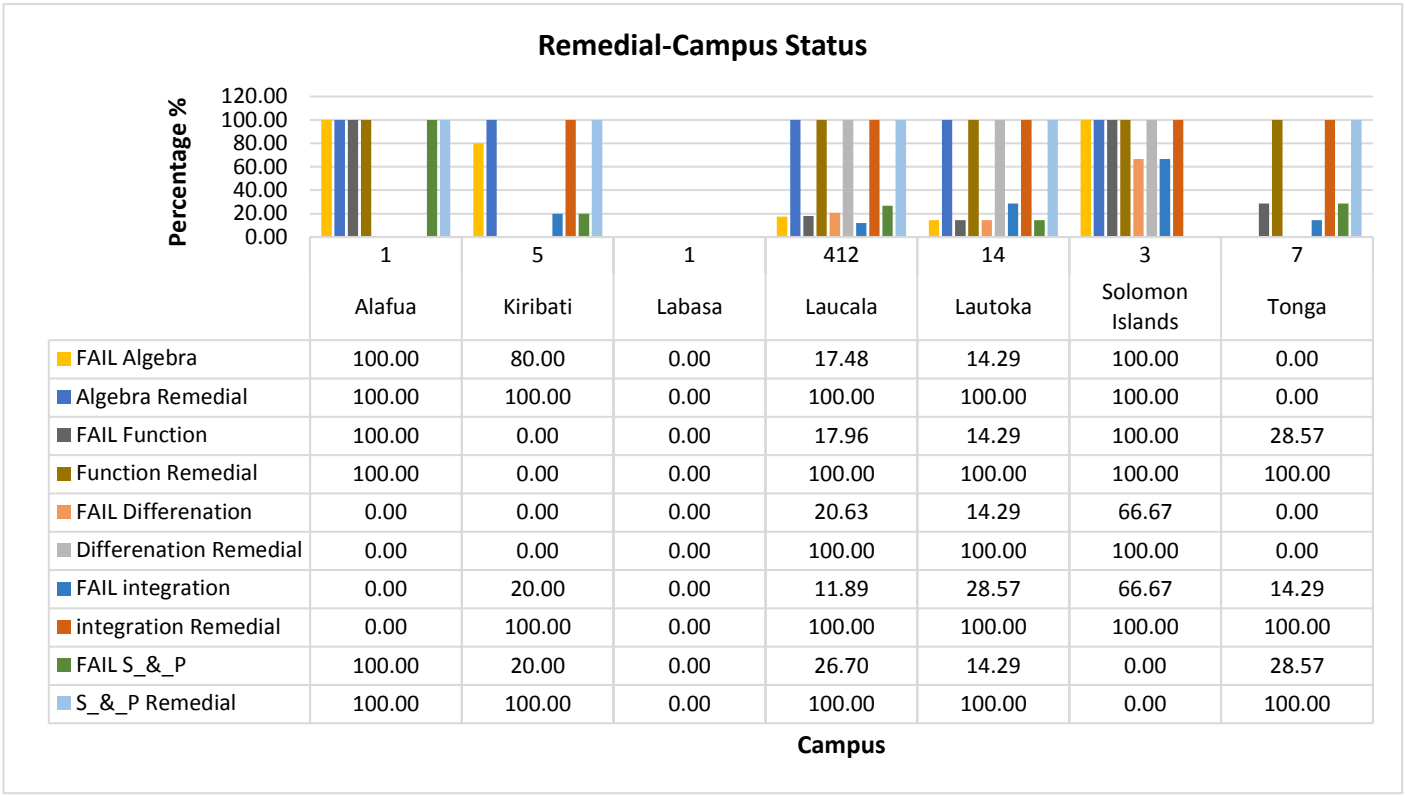


	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
PASS Algebra	0.00	20.00	100.00	82.52	85.71	0.00	100.00
FAIL Algebra	100.00	80.00	0.00	17.48	14.29	100.00	0.00
PASS Function	0.00	100.00	100.00	82.04	85.71	0.00	71.43
FAIL Function	100.00	0.00	0.00	17.96	14.29	100.00	28.57
PASS Differenation	100.00	100.00	100.00	79.37	85.71	33.33	100.00
FAIL Differenation	0.00	0.00	0.00	20.63	14.29	66.67	0.00
PASS integration	100.00	80.00	100.00	88.11	71.43	33.33	85.71
FAIL integration	0.00	20.00	0.00	11.89	28.57	66.67	14.29
PASS S_&_P	0.00	80.00	100.00	73.30	85.71	100.00	71.43
FAIL S_&_P	100.00	20.00	0.00	26.70	14.29	0.00	28.57

Campus

4.1.9 Percentage Remedial – Campus Status

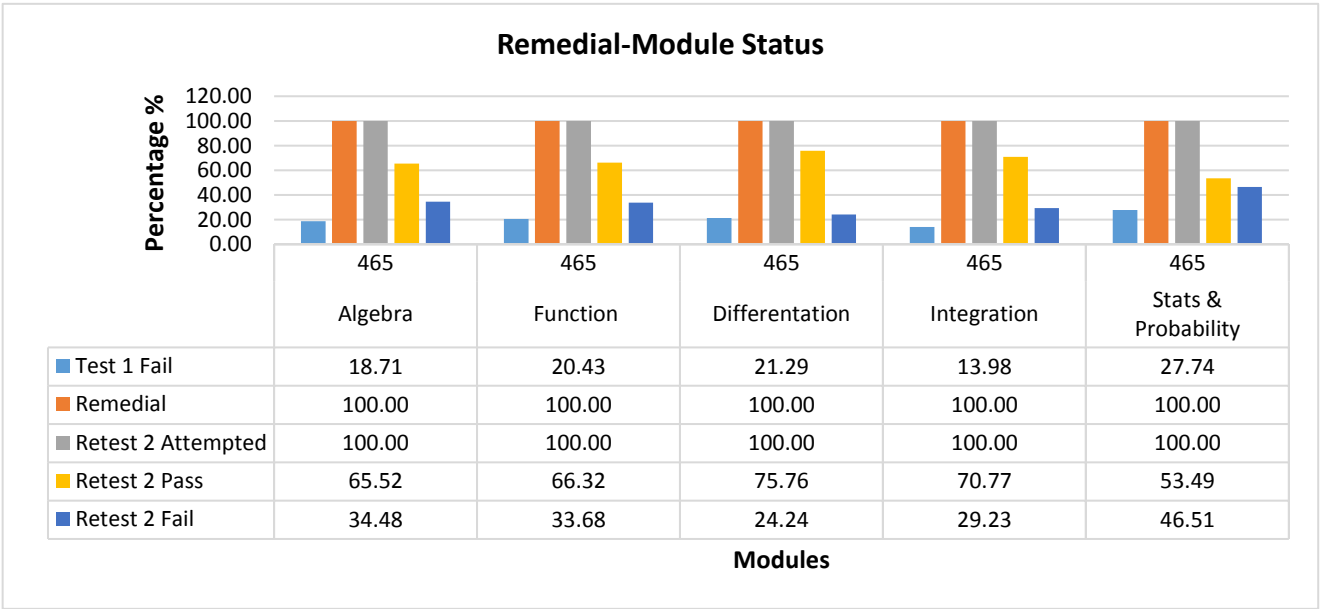
The graph above shows the Remedial percentage rate per Campus. The overall percentage student took remedial in various campus is more than 100% of the failed modules. It can be conclude that students who failed the modules have taken the remedial.



	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
FAIL Algebra	100.00	80.00	0.00	17.48	14.29	100.00	0.00
Algebra Remedial	100.00	100.00	0.00	100.00	100.00	100.00	0.00
FAIL Function	100.00	0.00	0.00	17.96	14.29	100.00	28.57
Function Remedial	100.00	0.00	0.00	100.00	100.00	100.00	100.00
FAIL Differenation	0.00	0.00	0.00	20.63	14.29	66.67	0.00
Differenation Remedial	0.00	0.00	0.00	100.00	100.00	100.00	0.00
FAIL integration	0.00	20.00	0.00	11.89	28.57	66.67	14.29
integration Remedial	0.00	100.00	0.00	100.00	100.00	100.00	100.00
FAIL S_&_P	100.00	20.00	0.00	26.70	14.29	0.00	28.57
S_&_P Remedial	100.00	100.00	0.00	100.00	100.00	0.00	100.00

Campus

4.1.10 Percentage Remedial – Module Status

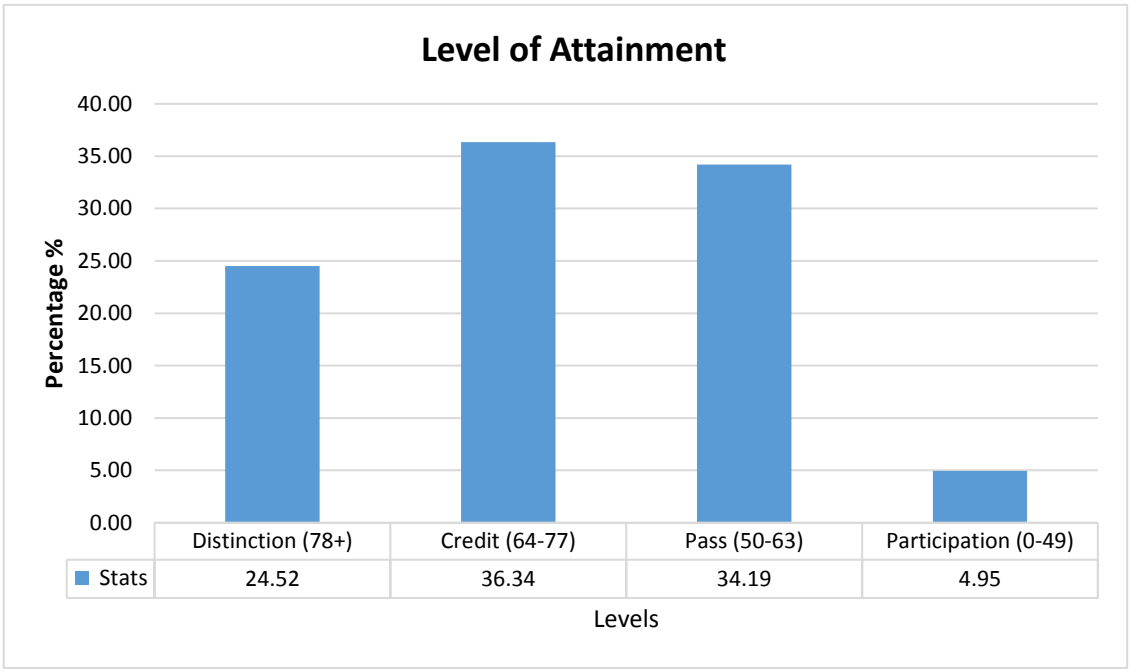


	465 Algebra	465 Function	465 Differentation	465 Integration	465 Stats & Probability
Test 1 Fail	18.71	20.43	21.29	13.98	27.74
Remedial	100.00	100.00	100.00	100.00	100.00
Retest 2 Attempted	100.00	100.00	100.00	100.00	100.00
Retest 2 Pass	65.52	66.32	75.76	70.77	53.49
Retest 2 Fail	34.48	33.68	24.24	29.23	46.51

Modules

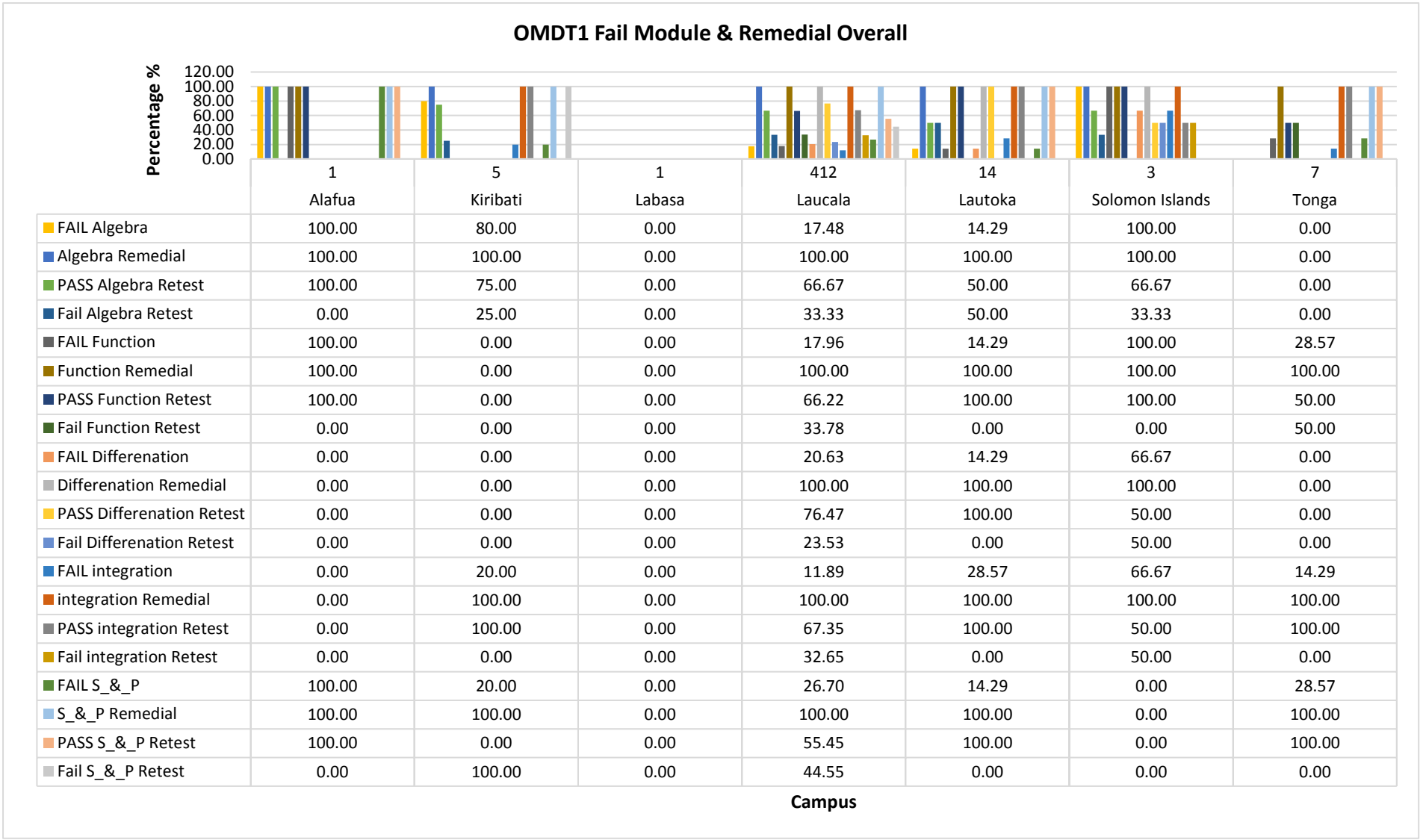
4.1.11 Level of Attainment

The graph below shows the level of attainment of 465 students. 24.52% students scored more than 78, 36.34% scored between 67-77, 34.19% scored between 50-63 and 4.95% scored between 0-49. The data below is after student completed the OMDT with certificate. Student failed the OMDT1 is 4.95%.



4.1.12 OMDT1 Fail Module & Remedial Overall

The graph shows the percentage rate of student that pass the Retest of the failed module after completing the remedial. The overall pass rate of retest is more than 50%



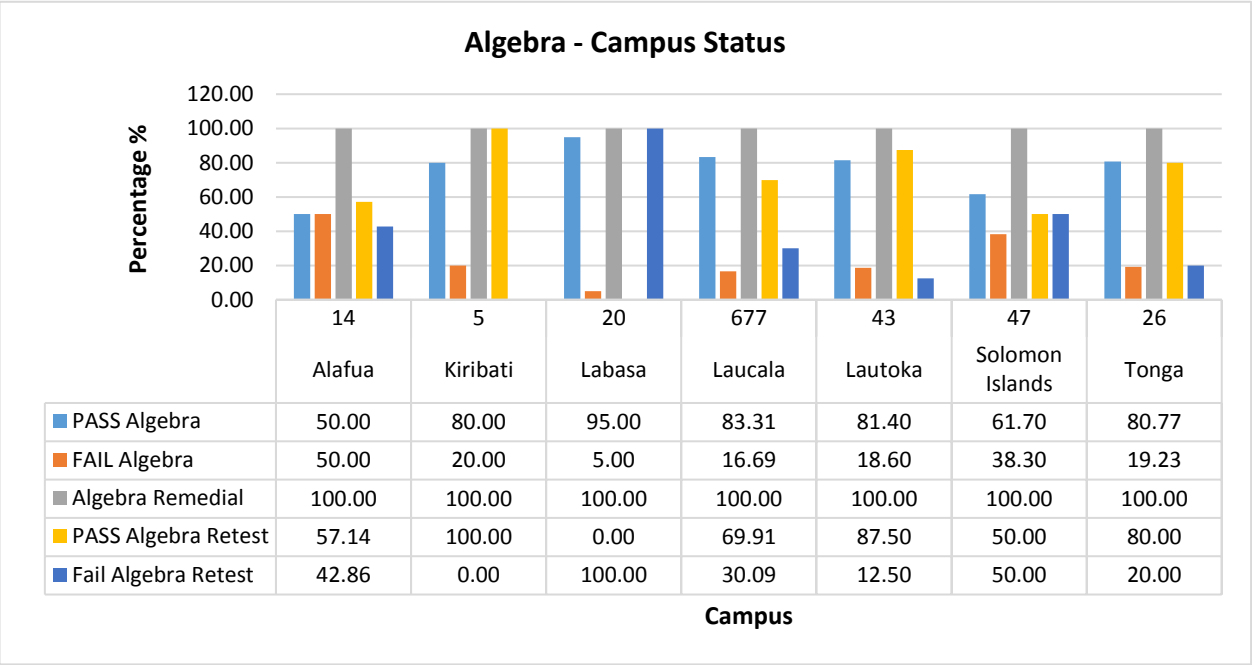
	1 Alafua	5 Kiribati	1 Labasa	412 Laucala	14 Lautoka	3 Solomon Islands	7 Tonga
FAIL Algebra	100.00	80.00	0.00	17.48	14.29	100.00	0.00
Algebra Remedial	100.00	100.00	0.00	100.00	100.00	100.00	0.00
PASS Algebra Retest	100.00	75.00	0.00	66.67	50.00	66.67	0.00
Fail Algebra Retest	0.00	25.00	0.00	33.33	50.00	33.33	0.00
FAIL Function	100.00	0.00	0.00	17.96	14.29	100.00	28.57
Function Remedial	100.00	0.00	0.00	100.00	100.00	100.00	100.00
PASS Function Retest	100.00	0.00	0.00	66.22	100.00	100.00	50.00
Fail Function Retest	0.00	0.00	0.00	33.78	0.00	0.00	50.00
FAIL Differenation	0.00	0.00	0.00	20.63	14.29	66.67	0.00
Differenation Remedial	0.00	0.00	0.00	100.00	100.00	100.00	0.00
PASS Differenation Retest	0.00	0.00	0.00	76.47	100.00	50.00	0.00
Fail Differenation Retest	0.00	0.00	0.00	23.53	0.00	50.00	0.00
FAIL integration	0.00	20.00	0.00	11.89	28.57	66.67	14.29
integration Remedial	0.00	100.00	0.00	100.00	100.00	100.00	100.00
PASS integration Retest	0.00	100.00	0.00	67.35	100.00	50.00	100.00
Fail integration Retest	0.00	0.00	0.00	32.65	0.00	50.00	0.00
FAIL S_&_P	100.00	20.00	0.00	26.70	14.29	0.00	28.57
S_&_P Remedial	100.00	100.00	0.00	100.00	100.00	0.00	100.00
PASS S_&_P Retest	100.00	0.00	0.00	55.45	100.00	0.00	100.00
Fail S_&_P Retest	0.00	100.00	0.00	44.55	0.00	0.00	0.00

5.0. OMDT2 Analysis

This analyzed result is from week 16, Semester 2, 2019.

5.1 Campus Algebra Status

The graph below shows the percentage of students did Algebra Module per campus.



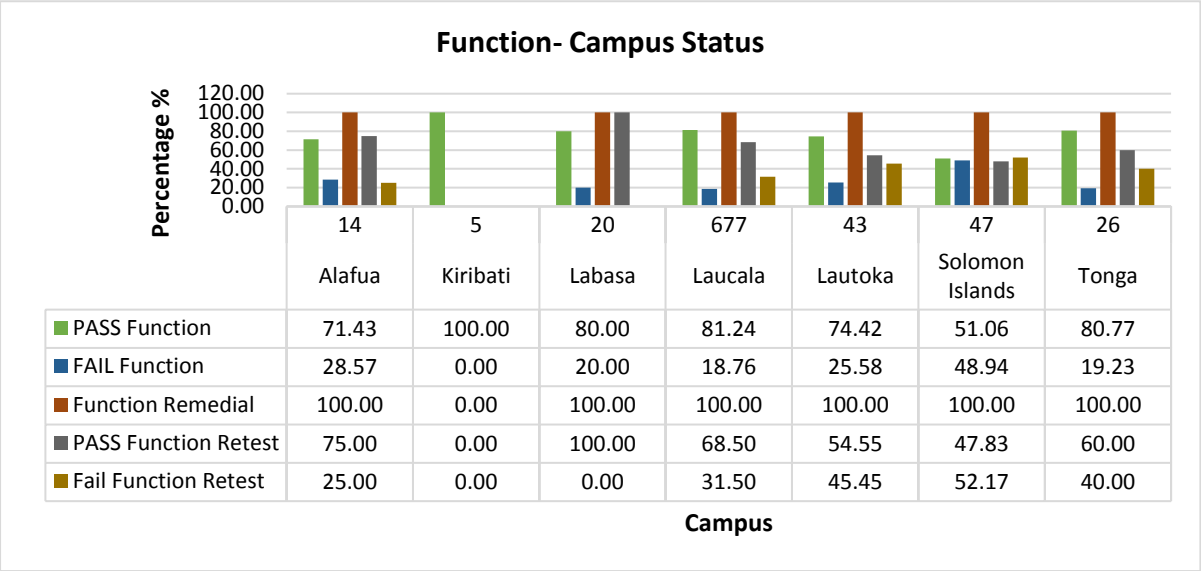
	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
PASS Algebra	50.00	80.00	95.00	83.31	81.40	61.70	80.77
FAIL Algebra	50.00	20.00	5.00	16.69	18.60	38.30	19.23
Algebra Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00
PASS Algebra Retest	57.14	100.00	0.00	69.91	87.50	50.00	80.00
Fail Algebra Retest	42.86	0.00	100.00	30.09	12.50	50.00	20.00

Campus

A total of 859 students did Algebra module. The pass rate of algebra module is more than 50%. Students are required to do the remedial if they fail the module, from the graph, percentage attempted the remedial is close to 100%. Student who did remedial and did the algebra module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 83.31% students pass the algebra test. From 16.69% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 69.91% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

5.1.1 Campus Function Status

The graph below shows the percentage of students did Function Module per campus.

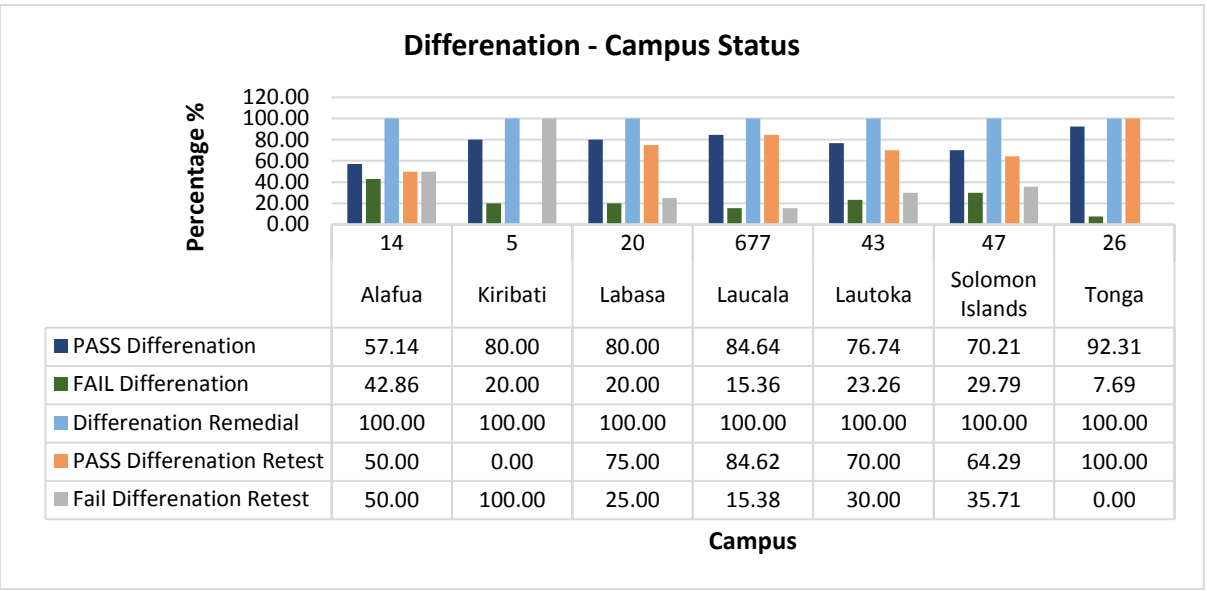


	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
PASS Function	71.43	100.00	80.00	81.24	74.42	51.06	80.77
FAIL Function	28.57	0.00	20.00	18.76	25.58	48.94	19.23
Function Remedial	100.00	0.00	100.00	100.00	100.00	100.00	100.00
PASS Function Retest	75.00	0.00	100.00	68.50	54.55	47.83	60.00
Fail Function Retest	25.00	0.00	0.00	31.50	45.45	52.17	40.00

The pass rate of Function module in majority campus is more than 50%. From the graph, percentage did the remedial is 100% of failed. Student who did remedial and did the function module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 81.24% students pass the function test. From 18.76% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 68.50% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

5.1.2 Campus Differentiation Status

The graph below shows the percentage of students did Differentiation Module per campus.



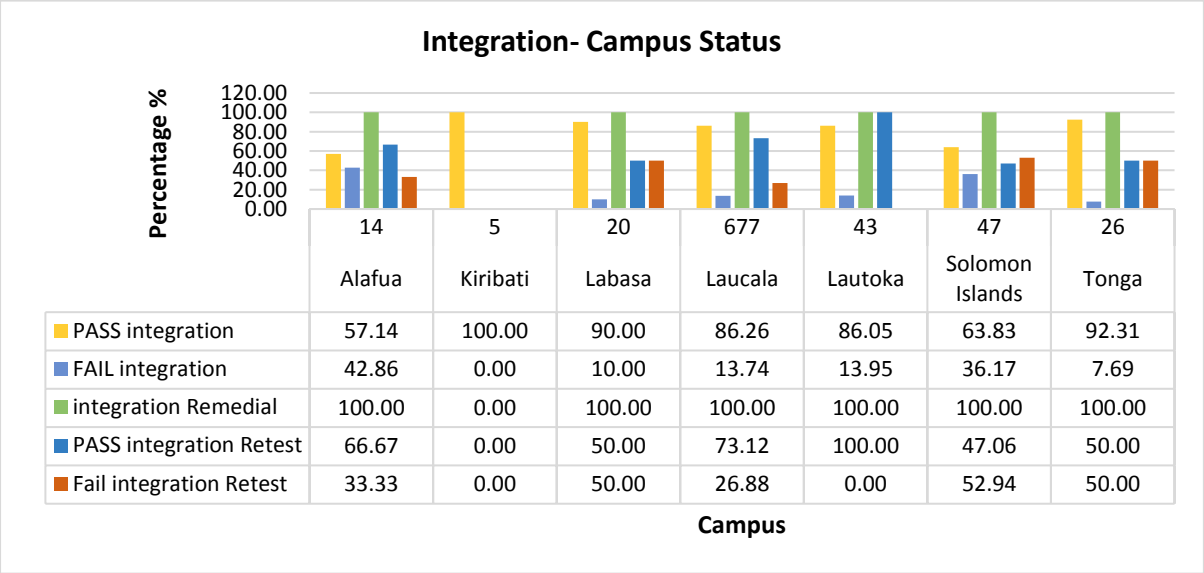
	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
PASS Differenation	57.14	80.00	80.00	84.64	76.74	70.21	92.31
FAIL Differenation	42.86	20.00	20.00	15.36	23.26	29.79	7.69
Differenation Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00
PASS Differenation Retest	50.00	0.00	75.00	84.62	70.00	64.29	100.00
Fail Differenation Retest	50.00	100.00	25.00	15.38	30.00	35.71	0.00

The pass rate of Differentiation module in majority campus is more than 50%. From the graph, percentage did the remedial is 100% of failed. Student who did remedial and did the Differentiation module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 84.64% students pass the Differentiation test. From 15.36% (failed), 100% students

did the remedial. 100% did the retest after completed the remedial. 84.62% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

5.1.3 Campus Integration Status

The graph below shows the percentage of students did Integration Module per campus.



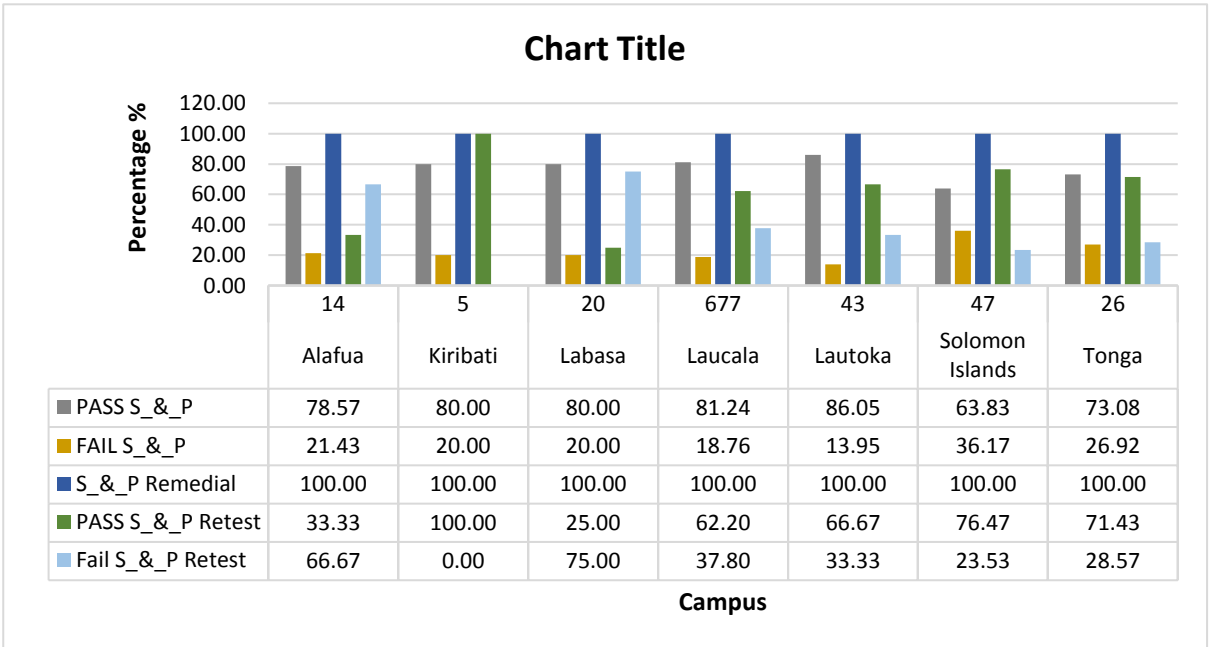
	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
PASS integration	57.14	100.00	90.00	86.26	86.05	63.83	92.31
FAIL integration	42.86	0.00	10.00	13.74	13.95	36.17	7.69
integration Remedial	100.00	0.00	100.00	100.00	100.00	100.00	100.00
PASS integration Retest	66.67	0.00	50.00	73.12	100.00	47.06	50.00
Fail integration Retest	33.33	0.00	50.00	26.88	0.00	52.94	50.00

Campus

The pass rate of Integration module in all campus is more than 50%. From the graph, percentage did the remedial is 100% of failed. Student who did remedial and did the Integration module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 86.26% students pass the Integration test. From 13.74% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 73.12% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

5.1.4 Campus Stats & Probability Status

The graph below shows the percentage of students did Stats & Probability Module per campus.



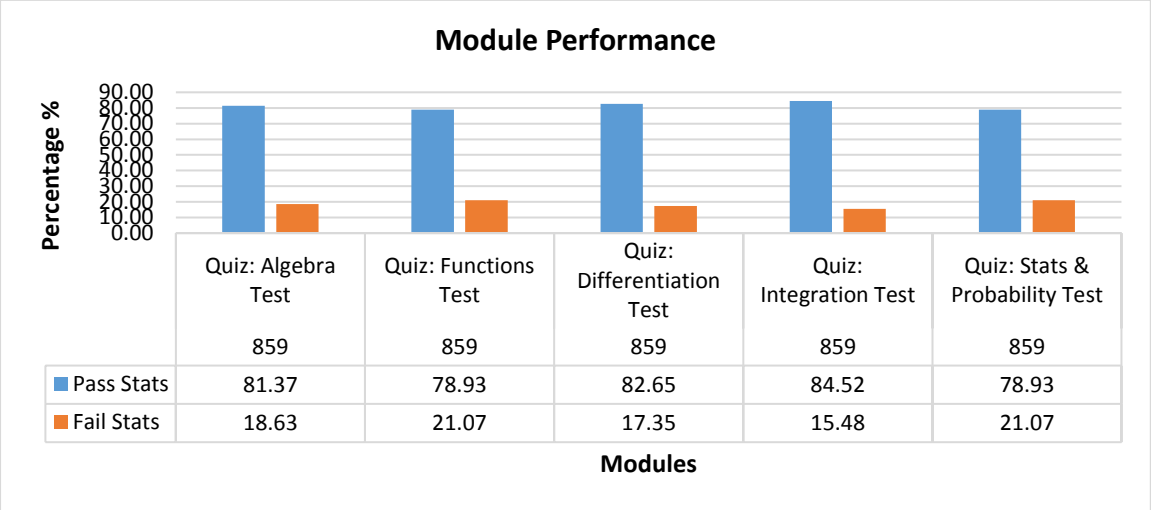
	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
PASS S_&_P	78.57	80.00	80.00	81.24	86.05	63.83	73.08
FAIL S_&_P	21.43	20.00	20.00	18.76	13.95	36.17	26.92
S_&_P Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00
PASS S_&_P Retest	33.33	100.00	25.00	62.20	66.67	76.47	71.43
Fail S_&_P Retest	66.67	0.00	75.00	37.80	33.33	23.53	28.57

Campus

The pass rate of Stats & Probability module in all the campus is more than 50%. From the graph, percentage did the remedial is 100% of failed. Student who did remedial and did the Stats & Probability module again (Retest) has higher pass percentage rate, which shows that remedial is effective. For Laucala campus 81.24% students pass the Stats & Probability test. From 18.76% (failed), 100% students did the remedial. 100% did the retest after completed the remedial. 62.20% from 100% student pass the retest after doing the remedial. Remedial helps student to learn more.

5.1.5 Module Performance Status

The graph below shows the Module Test performance percentage per Campus



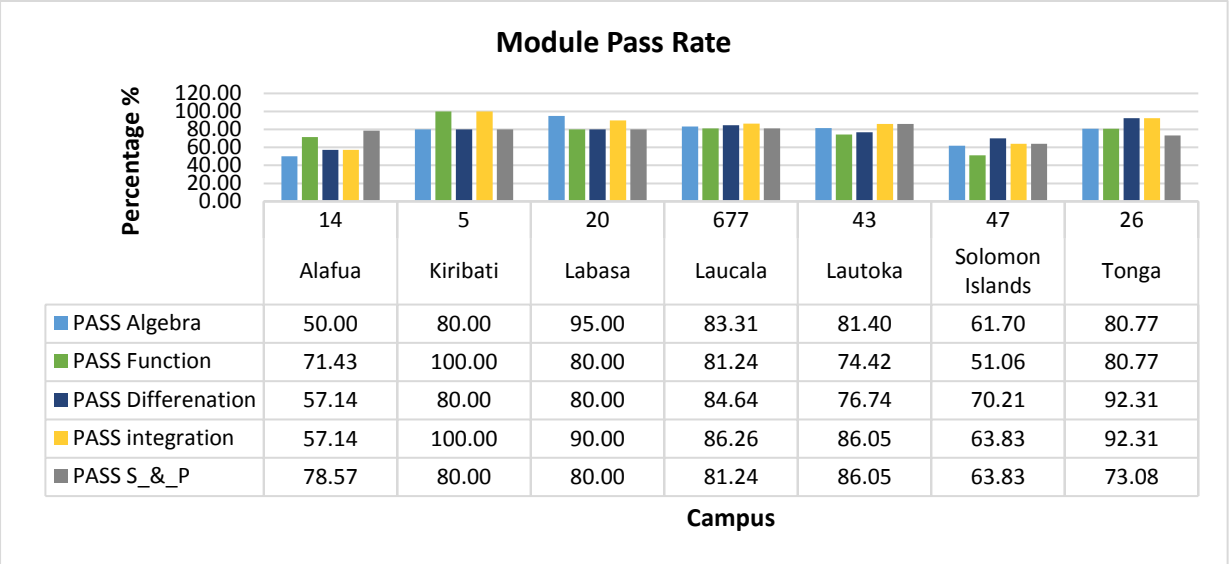
	Quiz: Algebra Test	Quiz: Functions Test	Quiz: Differentiation Test	Quiz: Integration Test	Quiz: Stats & Probability Test
	859	859	859	859	859
Pass Stats	81.37	78.93	82.65	84.52	78.93
Fail Stats	18.63	21.07	17.35	15.48	21.07

Pass performance rate per module is more than 50% in all 5 modules. From above data, Stats and Probability and Functions module has the least pass rate compared to other 3 modules. It can also be concluded at students find difficulties in Stats and Probability and Function modules.

5.1.6 Campus Attempt Status

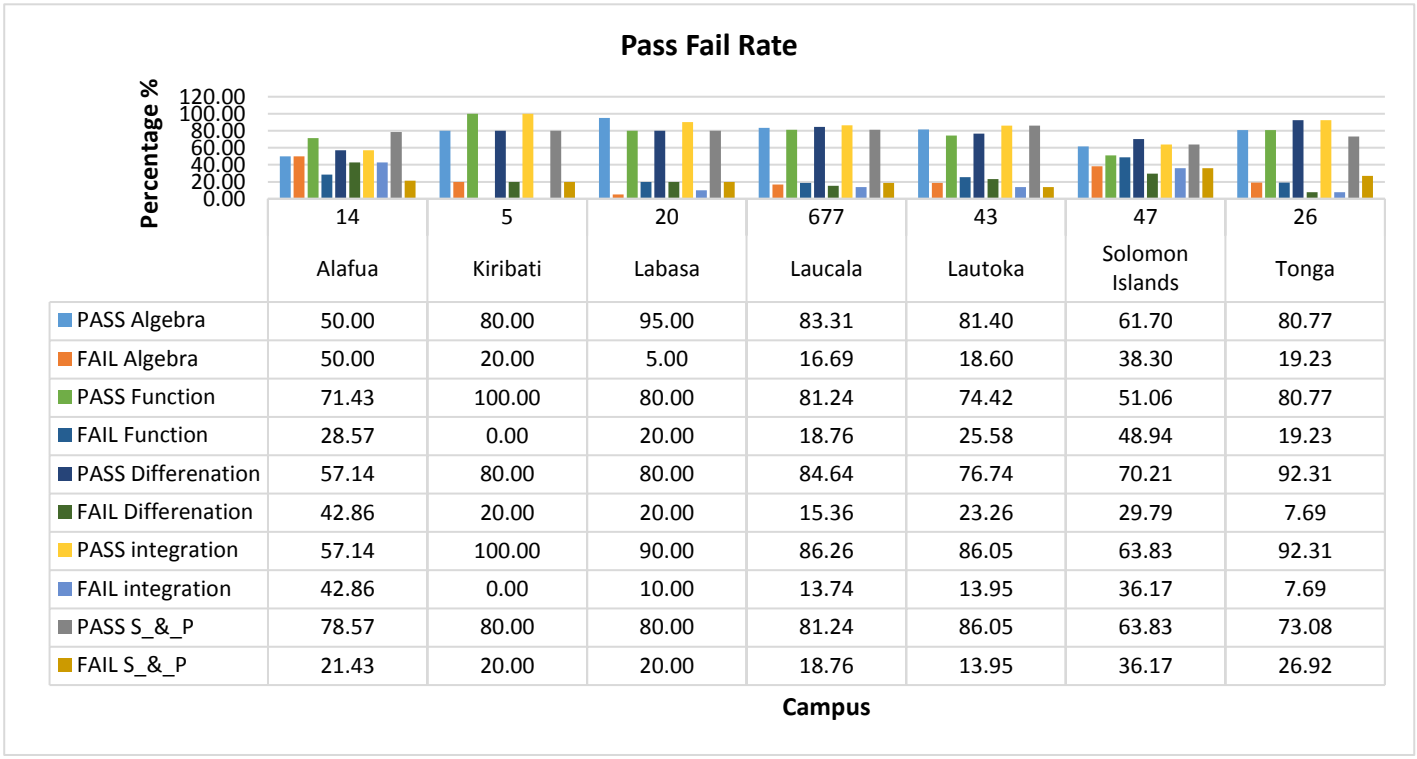
The graph below shows the Module Test percentage attempt per Campus.

The module rate per with respect to different campus is more than 50%. There are five modules of the test, each module only open if the pervious stage is completed. Stats and Probability and Function are the last module %. For Laucala campus pass rate is more than 80%. Integration has the highest pass rate 86.26% and stats and Probability and Function has the least 81.24% from all 5 modules.



	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
PASS Algebra	50.00	80.00	95.00	83.31	81.40	61.70	80.77
PASS Function	71.43	100.00	80.00	81.24	74.42	51.06	80.77
PASS Differenation	57.14	80.00	80.00	84.64	76.74	70.21	92.31
PASS integration	57.14	100.00	90.00	86.26	86.05	63.83	92.31
PASS S_&_P	78.57	80.00	80.00	81.24	86.05	63.83	73.08

5.1.7 Campus Pass and Fail Rate

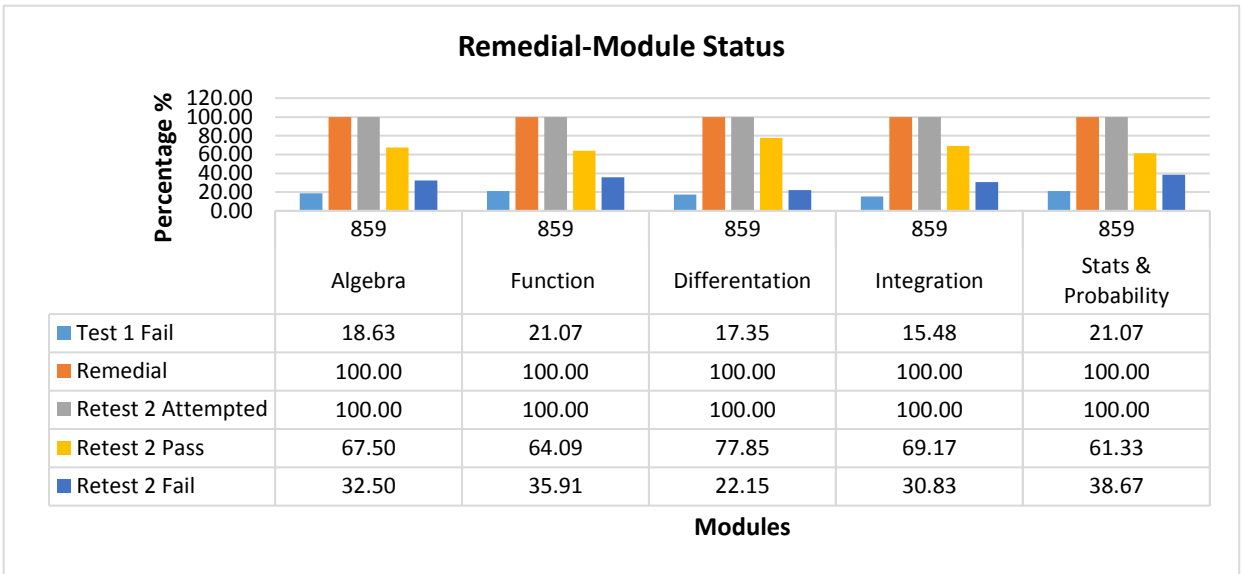


	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
PASS Algebra	50.00	80.00	95.00	83.31	81.40	61.70	80.77
FAIL Algebra	50.00	20.00	5.00	16.69	18.60	38.30	19.23
PASS Function	71.43	100.00	80.00	81.24	74.42	51.06	80.77
FAIL Function	28.57	0.00	20.00	18.76	25.58	48.94	19.23
PASS Differenation	57.14	80.00	80.00	84.64	76.74	70.21	92.31
FAIL Differenation	42.86	20.00	20.00	15.36	23.26	29.79	7.69
PASS integration	57.14	100.00	90.00	86.26	86.05	63.83	92.31
FAIL integration	42.86	0.00	10.00	13.74	13.95	36.17	7.69
PASS S_&_P	78.57	80.00	80.00	81.24	86.05	63.83	73.08
FAIL S_&_P	21.43	20.00	20.00	18.76	13.95	36.17	26.92

Campus

The graph above shows the Pass and Fail percentage rate per Campus. The overall pass rate per module with respect to campus is more than the fail rate. Algebra Module pass rate is higher than the rest of the 4 modules, whereas the stats & Probability and Function modules has low pass rate in all the campus.

5.1.8 Percentage Remedial – Module Status



	859 Algebra	859 Function	859 Differentation	859 Integration	859 Stats & Probability
Test 1 Fail	18.63	21.07	17.35	15.48	21.07
Remedial	100.00	100.00	100.00	100.00	100.00
Retest 2 Attempted	100.00	100.00	100.00	100.00	100.00
Retest 2 Pass	67.50	64.09	77.85	69.17	61.33
Retest 2 Fail	32.50	35.91	22.15	30.83	38.67

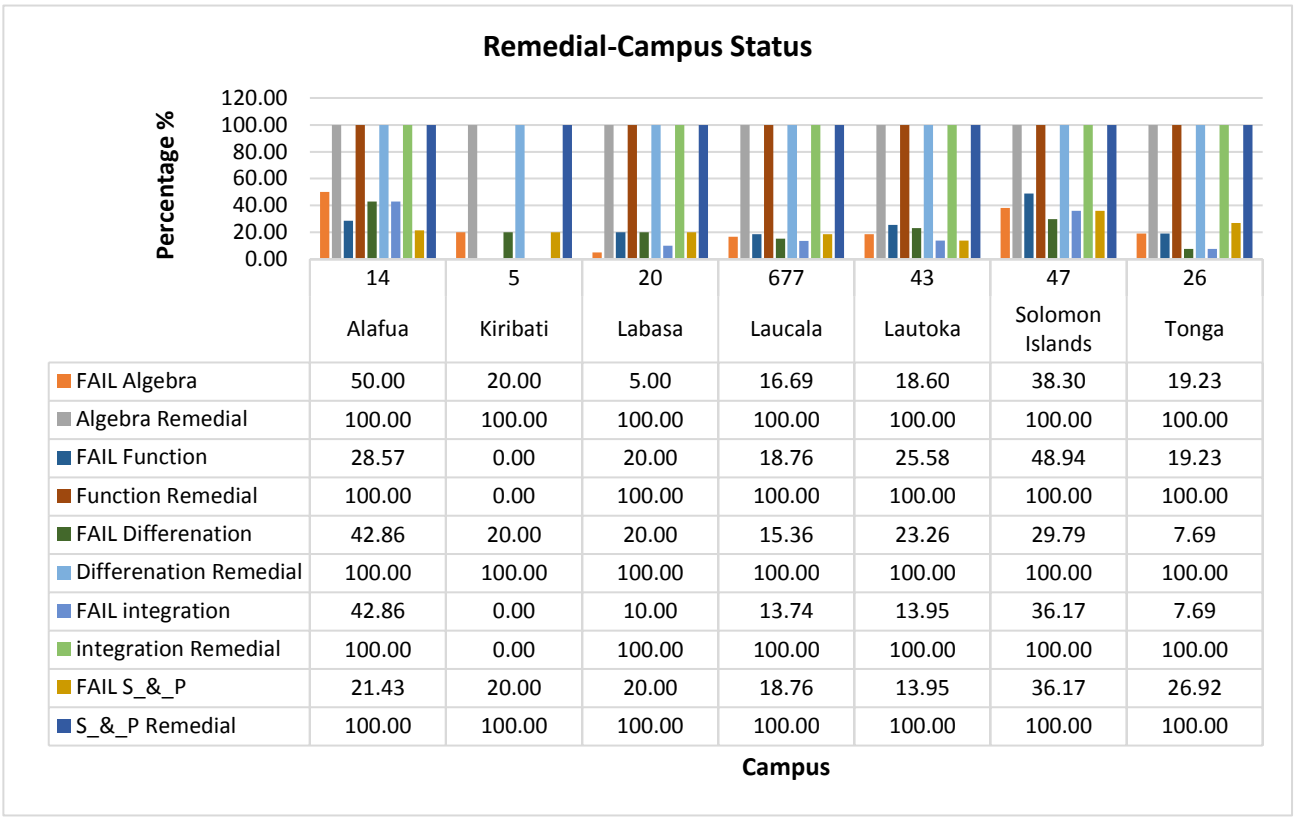
Modules

The above graph shows remedial percentage with respect to 5 modules. Stats & probability and Function modules recorded highest percentage compared to other 4 modules. Remedial done was 100% with respect to module failed. After doing remedial student did retest and the pass rate is

more than the fail rate. It can be concluded that remedial helps student to improve their math's knowledge.

5.1.9 Percentage Remedial – Campus Status

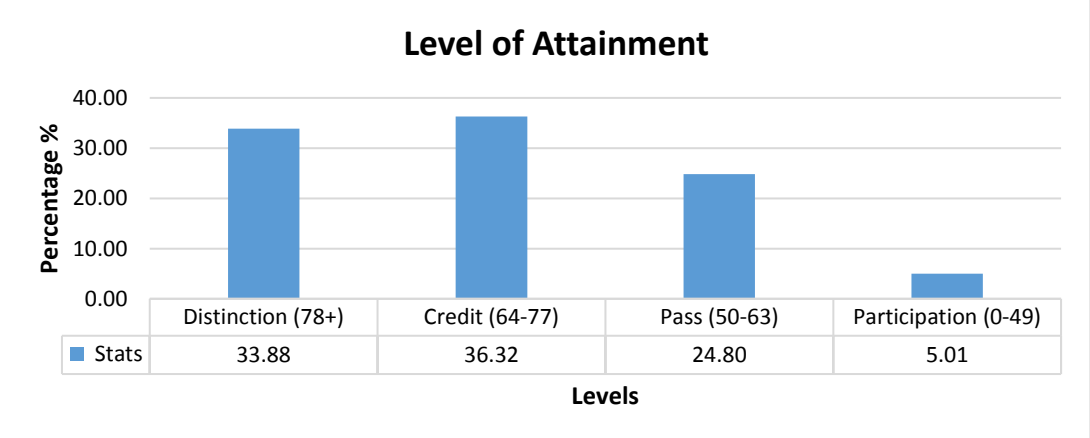
The graph below shows the Remedial percentage rate per Campus. The overall percentage student took remedial in various campus is more than 100% of the failed modules. It can be conclude that students who failed the modules have taken the remedial.



	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
FAIL Algebra	50.00	20.00	5.00	16.69	18.60	38.30	19.23
Algebra Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00
FAIL Function	28.57	0.00	20.00	18.76	25.58	48.94	19.23
Function Remedial	100.00	0.00	100.00	100.00	100.00	100.00	100.00
FAIL Differenation	42.86	20.00	20.00	15.36	23.26	29.79	7.69
Differenation Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00
FAIL integration	42.86	0.00	10.00	13.74	13.95	36.17	7.69
integration Remedial	100.00	0.00	100.00	100.00	100.00	100.00	100.00
FAIL S_&_P	21.43	20.00	20.00	18.76	13.95	36.17	26.92
S_&_P Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00

5.1.10 Level of Attainment

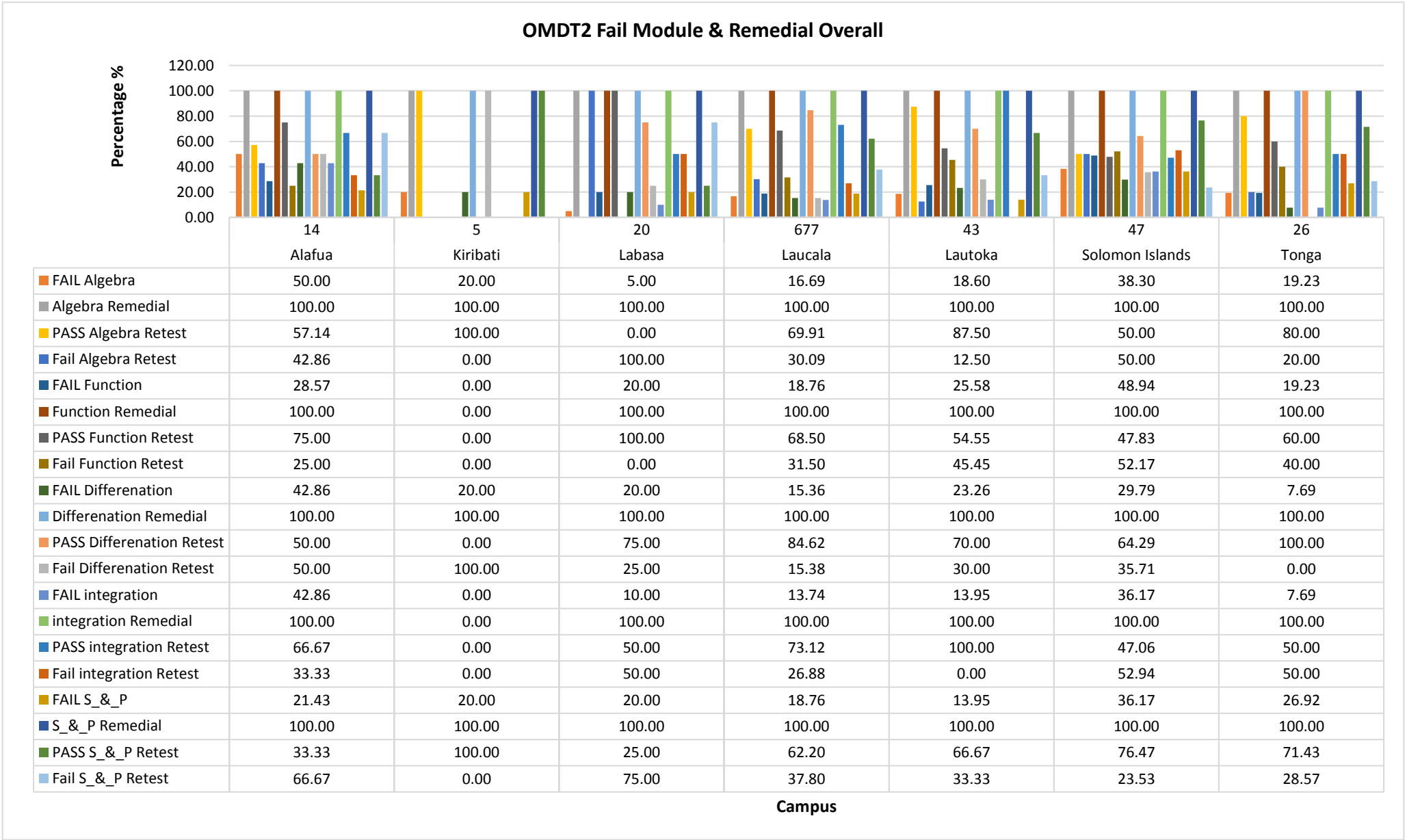
The graph below shows the level of attainment. 33.88% students scored more than 78, 36.32% scored between 67-77, 24.80% scored between 50-63 and 5.01% scored between 0-49. The data below is after student completed the OMDT with certificate. Student failed the OMDT2 is less than 10% that is 5.01%.



	Distinction (78+)	Credit (64-77)	Pass (50-63)	Participation (0-49)
Stats	33.88	36.32	24.80	5.01

5.1.11 OMDT1 Fail Module & Remedial Overall

The graph shows the percentage rate of student that pass the Retest of the failed module after completing the remedial. The overall pass rate of retest is more than 50%



	14 Alafua	5 Kiribati	20 Labasa	677 Laucala	43 Lautoka	47 Solomon Islands	26 Tonga
FAIL Algebra	50.00	20.00	5.00	16.69	18.60	38.30	19.23
Algebra Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00
PASS Algebra Retest	57.14	100.00	0.00	69.91	87.50	50.00	80.00
Fail Algebra Retest	42.86	0.00	100.00	30.09	12.50	50.00	20.00
FAIL Function	28.57	0.00	20.00	18.76	25.58	48.94	19.23
Function Remedial	100.00	0.00	100.00	100.00	100.00	100.00	100.00
PASS Function Retest	75.00	0.00	100.00	68.50	54.55	47.83	60.00
Fail Function Retest	25.00	0.00	0.00	31.50	45.45	52.17	40.00
FAIL Differenation	42.86	20.00	20.00	15.36	23.26	29.79	7.69
Differenation Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00
PASS Differenation Retest	50.00	0.00	75.00	84.62	70.00	64.29	100.00
Fail Differenation Retest	50.00	100.00	25.00	15.38	30.00	35.71	0.00
FAIL integration	42.86	0.00	10.00	13.74	13.95	36.17	7.69
integration Remedial	100.00	0.00	100.00	100.00	100.00	100.00	100.00
PASS integration Retest	66.67	0.00	50.00	73.12	100.00	47.06	50.00
Fail integration Retest	33.33	0.00	50.00	26.88	0.00	52.94	50.00
FAIL S_&_P	21.43	20.00	20.00	18.76	13.95	36.17	26.92
S_&_P Remedial	100.00	100.00	100.00	100.00	100.00	100.00	100.00
PASS S_&_P Retest	33.33	100.00	25.00	62.20	66.67	76.47	71.43
Fail S_&_P Retest	66.67	0.00	75.00	37.80	33.33	23.53	28.57

6.0 Issues and Challenges

Some Issues and challenges are highlighted:

- Internet connectivity
- Students not reading their offer letter and student email.
- Some students leave it for last minute. (end of 100 level)

7.0 Solution and Recommendation

- Internet issue: ITS to give priority access to OMDT during peak hours, increase the bandwidth is the region.
- OMDT coordinators to give demonstration in week 1 lectures in doing OMDT to all first year degree students. (Lectures which has large number of students, such as: Accounting, Math's, UU100).
- Students in the regional campuses are given more information by course coordinators and through posters in the campus.
- Course coordinators to add OMDT in their course outline and remind them weekly bases.
- Use USP mobile app to notify students to do OMDT.

8.0 Conclusion

The Pacific region faces an acute problem of numeracy skills. This is due to various factors such as resources, unqualified mathematics teachers, different curriculum in the countries and their coverage, lack of localized textbooks and learning materials, and many more. Consequently, students are deprived of good mathematics and sometimes certain mathematics topics are compromised. They arrive for their tertiary journeys with different levels of mathematics, many of them are already in the at-risk category even before they join the university, and hence are set to fail in their programmes right from the start. All these invariably show the dire and genuine need for OMDT.