Extending Education To The Pacific Region Through Cohort Teaching – Science Teachers Accelerated Programme

39th Pacific Circle Consortium Conference: Mapping 21st Eduscapes
The University of the South Pacific, Fiji, 2–4 July, 2015

Dr Bibhya Sharma
Associate Dean – Learning and Teaching
Faculty of Science, Technology and Env.
University of the South Pacific
Outline

1. Birth of STAP
2. Pre-STAP Preparatory Work
3. Model & Delivery Plan
4. Learning Support
5. Status Quo
6. STAP at a Glance – Slide Show
7. Conclusion

STAP is a new cohort teaching partnership signed by the Government of Samoa and the University of the South Pacific which delivers a two-year accelerated programme to upgrade the qualifications of teachers teaching science in the secondary schools in Samoa.
Birth of Science Teachers Accelerated Programme

- Observations: Science Outreach and the Importance of Science in the Region
  - Discussions with Ministry of Education, Sports & Culture, Samoa

- Intervention: Multi-modal and ICT Enriched Model
  - Selection Criteria of Teachers

- Upskilling Workshops

- Official STAP launch
We are embarking today on an important journey that will see many benefits for our education system and that is the awarding of 60 Government Scholarships for Science teachers to undertake a Bachelor of Science Programme at USP. 

Failure is NOT an Option!
The following Refresher and induction workshops were conducted:

- Setting Priorities and Study Skills
- Listening to lectures
- Note Taking
- Basic Computing
- Introduction to Moodle
- ICT Refresher
- Social Networks
- ICT Tools
- Learning Styles
- Course Tips
While the students openly expressed that the workshop takeaways were useful as indicated by a 5-point likert scale ($\bar{x} = 4.79; sd = 0.45$) their ICT competency greatly varied. An evaluation using a 4-point Likert scale showed $\bar{x} = 2.79$ and $sd = 0.91$ which indicate an average rating towards ICT skills.

Interesting Facts

- Almost 50% computer illiterate
- 80% had never used Internet before
- Only 8% had existing email accounts
- 88% had their Facebook account created
The STAP cohort currently comprises of 63 teachers, including Heads of Departments, VPs, and Principals.

The age distribution of the cohort ranges from 23 to 52 years of age. The teachers below 30 years of age represent 41% of the cohort.
The design and structure of the STAP model was subject to, inter alia, the qualifications of the cohort.

Figure 1: Depicts the percentage of teachers categorized according to their highest level of qualification.
After an intensive review of the constraints and logistics a feasible 2-year delivery plan for STAP was established with expected completion in June and graduation in December, 2016. In this duration 16–18 courses would be offered.

Table 1: Showing the number of courses offered per term to the STAP cohort

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer (January)</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Semester 1 (Feb–June)</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Winter (June–September)</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Semester 2 (July–November)</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Summer (Dec)</td>
<td>2</td>
<td>2</td>
<td>GRAD</td>
</tr>
</tbody>
</table>
Historically, Science courses are only offered at the Laucala Campus due to the unavailability of specialised laboratory equipment in the regional campuses.

Equipment intensive practical components for Biology, Chemistry & Physics courses would be conducted at the Laucala campus in Fiji during a 2-week Science Bootcamp.
1. eMentoring

- The eMentoring support was provided using Big Blue Button (BBB), an open source software which is low on Bandwidth.
- A Likert scale rating of 1–5 was used to evaluate students satisfaction, the results showed statistics ($\bar{x} = 4.22; sd = 0.48$), which is a good indication that this new service was useful.

2. Tablets

- eRepository since the devices were preloaded with course materials and OERs.
- Wi-Fi capability allows students to connect to wireless Internet services on campus or connect to other wireless networks.
3. Social Media
   - Social media was harnessed to allow flexibility in communicating with the facilitators.
   - A Facebook group

4. Moodle Support

5. Tutorial Support

6. SMS Notifications

7. Video Conferencing
First Course: UU100

- University course designed to boost the communications and information literacy of the students.
- UU100 STAP results were found to be statistically significantly lower than past three years flexi school final marks 2014 (\(U = 3583.5, p = 0.0003\)), 2013 (\(U = 2460.5, p = 0.000\)) and 2012(\(U = 3791, p = 0.000\))

\[\mu = 65.6\]
\[\sigma = 15.8\]
BI102

- BI102 STAP results were found to be statistically significantly higher than the past two years Laucala results, 2014 ($U = 2868.5, p = 0.0002$) and 2013 ($U = 3280.5, p = 0.00003$)
- There was no statistically significant difference between BI102 STAP and 2012 results ($U = 3791, p = 0.000$)

$\mu = 65; \sigma = 12$
CS112

CS112 STAP results were found to be statistically significantly higher than the past three years Laucala results, 2014 ($U = 674, p = 0.027$), 2013 ($U = 723.5, p = 0.020$) and 2012 ($U = 965, p = 0.048$)

$\mu = 56.6$

$\sigma = 9.3$
The pass rate for UU100 was 98.4%.

2 Mathematics units were offered in Semester 2 which had an average pass rate of 60.6%

Mathematics flexi school was organised to bring the students who had not passed in semester 2 in par with the cohort which secured average pass rate of 91.7%

The average pass rate of 5 courses offered for December flexi school was 89.3% while this average rose to 95.0% in January when another 5 courses were offered.

The overall average pass rate of STAP so far 88.3%
STAP Award Function