Growing medical educators in the Pacific - How do knowledge and skills learned from a medical education workshop translate to Fijian clinicians teaching practice?

Sinead Katherine Kado

BSc; MBBS; Dip O&G; GCME

22121854

This thesis is presented in partial fulfilment of the requirements for the Master of Health Professions Education of The University of Western Australia

School of Allied Health
Health Professions Education
2018
**Thesis Declaration**

I, Sinead Katherine Kado, certify that:

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**Approval #: UWA – RA/4/20/4300.**

Written participant consent has been received and archived for the research involving participant data reported in this thesis.

The following approvals were obtained prior to commencing the relevant work described in this thesis:

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This thesis does not contain work that I have published, nor work under review for publication.

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Abstract

**Purpose:** Faculty development in medical education is advocated to improve teaching practices of clinicians. Systematic reviews have found medical education workshops to be enjoyable, lead to increased confidence and change behaviour, however, many of these changes were self-reported. Recommendations were made for further qualitative research on ‘How’ these changes occurred and more observational research on actual changed teaching practice.

Medical education workshops have been conducted in the Pacific over the last three years to improve clinical teaching and supervision. A qualitative case study was conducted in Fiji to explore how Fijian clinicians translate the knowledge and skills learnt in a medical education workshop to their teaching practice’. Fiji provided a unique setting for this research because faculty development is in its infancy and it is a low-resource setting.

**Methods:** Purposeful sampling was used to recruit nine (9) clinicians who had attended a medical education workshop in 2017. Data were collected through reflective journals, interviews, lesson plans and videos of teaching over four months before thematic analysis was conducted.

**Results:** The clinicians’ stories were narrated and six themes were identified that represented their journey, including the enablers and inhibitors to changing their teaching practice. The themes included: 1) Perception of the workshop; 2) Evolving learning and teaching philosophy; 3) Changing practice; 4) Teachers’ perception of responses from the students; 5) Inhibitors to change; and 6) Enablers of change.

**Conclusion:** A model of change was developed from the insights and reviewed against the current educational change and medical education literature to provide a series of recommendations for faculty development in low-resource settings like the Pacific.
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Third, to my wonderful clinician colleagues in Fiji, without whom there would be no research results and recommendations, thank you for taking time out of your already over busy schedules to participate. I hope that together we will be able to develop the fertile ground for medical education to facilitate your growth as medical educators.

Fourth, to my courageous husband, Joseph, and our children, Celeste, Gabriela, Abigail and Jack, who gave up their home, family and friends to come to Australia and support me in my Masters. Also, to my parents flying across continents to look after the grandchildren when I needed to facilitate the workshop.

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(in order as presented in the thesis)

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<thead>
<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>FNU</td>
<td>Fiji National University</td>
</tr>
<tr>
<td>CMNHS</td>
<td>College of Medicine, Nursing and Health Sciences</td>
</tr>
<tr>
<td>SMS</td>
<td>School of Medical Sciences</td>
</tr>
<tr>
<td>GCME</td>
<td>Graduate Certificate in Medical Education</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
<tr>
<td>DFAT</td>
<td>Department of Foreign Affairs and Trade (previously known as AusAID)</td>
</tr>
<tr>
<td>UWA HREC</td>
<td>University of Western Australia Higher Research Ethics Committee</td>
</tr>
<tr>
<td>CHREC</td>
<td>College of Health Research Ethics Committee</td>
</tr>
<tr>
<td>VARK</td>
<td>Visual, Auditory, Read/Write, and Kinaesthetic</td>
</tr>
<tr>
<td>CINAHL</td>
<td>Cumulative Index to Nursing and Allied Health Literature</td>
</tr>
<tr>
<td>ERIC</td>
<td>Education Resources Information Centre</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>PBL</td>
<td>Problem Based Learning</td>
</tr>
<tr>
<td>APLS</td>
<td>Advanced Paediatric Life Support</td>
</tr>
<tr>
<td>PTC</td>
<td>Primary Trauma Care</td>
</tr>
<tr>
<td>ANZCA</td>
<td>Australia and New Zealand College of Anaesthetists</td>
</tr>
<tr>
<td>HOS</td>
<td>Head of School</td>
</tr>
<tr>
<td>UASR</td>
<td>University Academic and Student Regulations</td>
</tr>
<tr>
<td>SAQ</td>
<td>Short Answer Question</td>
</tr>
<tr>
<td>FSM</td>
<td>Fiji School of Medicine</td>
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<tr>
<td>CME</td>
<td>Continuing Medical Education</td>
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</table>
1 Chapter 1: Introduction

1.1 Introduction

This introductory Chapter will begin by explaining the background to the development of medical education workshops in the Pacific, including Fiji. The rationale for conducting the research in the broader international medical education context will then be discussed before stating the research purpose and question. Finally, an overview of the structure of the thesis will be presented.

1.2 Background to Medical Education Development in Fiji and the Pacific

In the Pacific, the formal development of medical education has lagged compared with the Western world.1,2 Medical education training in Fiji commenced in 2010, after an external review of the medical curriculum at the Fiji National University; College of Medicine, Nursing and Health Science; School of Medical Science (FNU-CMNHS-SMS). It was recommended that the medical education development of clinicians in teaching, learning, feedback and assessment principles would benefit both staff and students.3 This was in addition to the global viewpoint that medical education development is essential to foster clinicians’ skills in teaching and assessing the next generation of medical students and graduates.4-6 Furthermore, the criteria for being a successful teacher have been identified as having knowledge of the subject, the skill set to teach and the ability to reflect on the teaching to improve teaching skills and assist student learning.7 Although the clinicians at FNU-CMNHS-SMS have a wealth of clinical knowledge, there was a clear need to further develop and upskill their teaching practices, including reflection.2

This need to develop clinicians’ teaching skills resulted in a collaboration with five medical schools from Australasia to deliver a Graduate Certificate in Medical Education (GCME) program during 2013 and 2014. The GCME program was offered at the Fiji National University for the local faculty in CMNHS. The GCME consisted of three modules and a research project. Each module consisted of two, one-week intense workshops with assignments between them. The first module covered teaching and learning, the second assessment and evaluation, and the third curriculum design. Thirty staff began the program from the Schools of Medicine, Dentistry, Nursing and Allied Health. Fifteen staff
completed the program, including the research project and were awarded the GCME (including the student researcher for the current research), with nine from the School of Medical Sciences and three each from the School of Health Sciences and the School of Dentistry. Since the first cohort successfully completed the GCME at the end of 2014, there has been no further formal medical education training at FNU, or elsewhere in the Pacific, due to funding restrictions and a lack of local faculty available to teach the program. The aim had been that the first cohort to complete the GCME would deliver the GCME program to other faculty, however, each of the GCME graduates were engaged in other important roles within the College and could not run the GCME program. Formal medical education was thus put on hold after 2014 until the subsequent emergence of a need to upskill clinicians around the Pacific in medical education due to the return of large numbers of Cuban-trained graduates\(^8\), which is described next.

Since 2006, many Pacific Islands, including Kiribati, Solomon Islands, and Vanuatu, have sent their students to Cuba for medical training.\(^1,8\) Cuba offered free medical training to students from the Pacific Islands after improvements in diplomatic relations. Many Pacific Islands are below the WHO recommended doctor to patient ratio and this offer enabled many more students to be trained.\(^9\) However, in 2013, on their return to the Pacific Islands it was found that the graduates, who had been taught in Spanish, had a poor grasp for medical English.\(^8\) Furthermore, although their theoretical knowledge was adequate they were lacking in the skills needed to be safe and competent doctors in the Pacific context.\(^10\) The local clinicians felt unprepared to supervise the returning graduates due to the larger numbers of returning graduates and the new graduates’ lack of clinical skills.\(^1,10\) The local Pacific clinicians had previously only needed to supervise graduates returning from Fiji and/or Papua New Guinea where the medical curriculum involves a greater proportion of hands-on training. The graduates from Fiji had usually completed their internship in Fiji, or if they completed their internship in their home countries, they were fewer in number and the interns benefitted from an apprenticeship model of learning.\(^11\) The first Cuban cohort to return to Kiribati consisted of 18 graduates and the Solomon Islands had 23 graduates.\(^1\) The local clinical workforce in the Pacific countries requested training to help them supervise and teach these new Cuban-trained graduates.\(^1\)

In response to this request, medical education workshops were developed using an action research framework based on experiential learning theory\(^8\), in a collaboration between the Fiji National, Flinders and James Cook Universities.\(^12\) The two facilitators from Australia
were both experienced medical educators and the student researcher for this study was the local facilitator from Fiji. The local facilitator had approached the experienced facilitators from the GCME program to develop a five-day medical education workshop after working with the clinicians in the Solomon Islands and assessing the new graduates from Cuba. With the local facilitators knowledge of the clinicians and their needs, the first workshop for the Solomon Islands was developed and delivered in March 2015. It was subsequently delivered in Kiribati, Vanuatu and Palau in August and November 2015 and November 2016, respectively. After each workshop, participants completed an evaluation and the recommendations were used to improve the next iteration. The workshops were funded jointly between the Department of Foreign Affairs and Trade (DFAT – previously known as Australian Aid) and the Pacific Island Countries. After positive feedback was received from the participants attending the workshops around the Pacific it was proposed that a similar workshop be run for the clinicians at FNU-CMNHS, in the absence of formal medical education development programs, to upskill those who had not been able to do the GCME.

For the medical faculty at FNU-CMNHS, the medical education workshops provided the basic principles of medical education in the absence of the GCME. Two workshops for FNU-CMNHS faculty were subsequently conducted in September 2016 and November 2017. The former workshop had representatives from the five schools in FNU-CMNHS including nurses, dentists, allied health professionals, public health and six clinicians, and the latter was specifically run for the School of Medical Science (SMS) for 21 clinicians. The workshops were funded through the University and DFAT and were conducted by the same team of facilitators as for the Pacific medical education workshops.

The workshops aimed to enhance teaching and learning skills by focusing on student-centred teaching, feedback, assessment, and evaluation (a detailed description of the workshop is provided in Chapter 2). The teaching and learning principles from the workshop were tested on the last day with a practical, peer education exercise, and written feedback was given to the participants on the positive aspects and areas for improvement. Results from the self-reported evaluation forms completed at the end of the workshop have shown that participants enjoyed the workshops and felt more confident. The end of workshop assessment demonstrated that the participants were able to use their knowledge and skills gained in the workshop in a peer teaching exercise. These evaluation findings from the Pacific medical education workshops are consistent with three international
systematic reviews, conducted in 2006, 2013 and 2016 on medical education development of clinicians, which have also found that workshops are appreciated by participants and lead to changes in medical education knowledge, skills and attitudes. \textsuperscript{16-18}

Although the workshops were enjoyed by the participants, there has been little longitudinal follow up on whether the clinicians have used the skills acquired in the workshops in their everyday educational practice. As a facilitator of the workshops, the student researcher was keen to know if the workshop had an impact on the clinicians’ educational practice. As part of the Master of Health Professions Education, she wanted to investigate ‘if’ and ‘how’ the Fijian clinicians used the workshop in their everyday educational practice both from their perspective and from observing their teaching. The driving aim was based on the premise that evidence-based research would ensure that faculty development in medical education is relevant, usable, sustainable, and ultimately improves student learning to provide competent and caring health professionals in Fiji.

1.3 Rationale for the Research

This study investigates the transfer of learning to the workplace at a deeper level, through a qualitative case study approach, discovering if and how the Fijian clinicians translated the knowledge and skills learnt in the workshop to their own educational practice and the factors influencing this change.\textsuperscript{19} This study contributes to the current qualitative gap in the literature on outcomes of medical education workshops in practice, especially in low-resource settings. Additionally, using a pragmatic approach,\textsuperscript{20} outcomes from this study will help modify and improve future professional faculty development based on the educational needs of clinicians in Fiji, and direct what ongoing teaching support they need. The study findings may also provide evidence that professional development in medical education is an effective use of funds and provide a rationale for a sustainable medical education training model in low-resource settings.\textsuperscript{21,22}

This research is significant in several important ways. First, there is currently very limited formal medical education training offered to clinicians in the Pacific. Therefore, this study aims to investigate if a one-week intensive workshop is an effective way of assisting clinicians to improve their educational practices.

Second, little is known about ‘how’ clinicians translate educational knowledge into teaching behaviour. Systematic reviews conducted in 2006 and 2016 have identified a need
for more qualitative research around faculty development in medical education and its implementation into teaching practice.\textsuperscript{16,17} The findings from both reviews found that whilst workshops can change knowledge, attitudes and behaviour, little is known about what influenced these learning processes, or more specifically \textit{how} clinicians translated their knowledge into practice.\textsuperscript{17} Similarly, the evaluation of the Pacific workshops demonstrated that participants appreciate the workshops and the final assessment showed they gain knowledge and skills.\textsuperscript{15} However, further research needs to be conducted to find out ‘\textit{If}’ and ‘\textit{How}’ the knowledge and skills are being used to change participants behaviour in the workplace.

Third, previous research has suggested that although clinicians think that they have changed their teaching methods, this is not always observed in practice.\textsuperscript{16} This study aims to triangulate the findings through self-reflective journals and interviews, lesson plans and observation of teaching to provide a better understanding of the whole process of translating medical education knowledge into teaching practice. Therefore, this study aims to substantiate if the reported changes to their teaching practice, made by the clinicians in their reflective journals and interviews, are also seen observed in their teaching practice. Observing teaching practice provides a more objective way of looking at whether participants are practising the lessons learnt and has been included to compliment or justify the self-reported change which may be different from actual observed behaviour.\textsuperscript{17,18}

Finally, no published research was found showing how clinicians implement workshop lessons in a low-resource setting such as Fiji where formal medical education training is a relatively new phenomenon. The self-reflective journals and interviews, alongside the lesson plans and observation of teaching will provide a rich narrative of each clinician’s journey since the medical education workshop that deepens our understandings of how Fijian clinicians translate lessons learnt into their teaching practice.

\subsection*{1.4 Purpose of the Study}

The purpose of this qualitative case study was to explore how a group of Fijian clinicians used lessons learnt from a medical education workshop in their teaching practice. Data were collected through reflective journals, interviews, lesson plans and video-recordings of teaching sessions. The research aimed to inform future medical education development in the Pacific by articulating ‘\textit{If}’ and ‘\textit{How}’ clinicians implement medical education skills and
knowledge into practice. Furthermore, the research aimed to identify successful medical education development strategies that could be applied to other low-resource settings.

1.5 Research Question

The main question that guided this study was

‘How do Fijian clinicians translate knowledge and skills learned in a medical education workshop to their teaching practice?’

1.6 Structure of the Thesis

The structure of the thesis continues with Chapter 2 explaining the Fiji medical education workshop content and initial evaluation to provide a detailed background to the research. This is followed by the review of the current literature in Chapter 3 to define what faculty development is and to align the study to both quantitative and qualitative studies around faculty development in medical education in developed and developing countries. After the research study has been grounded in the literature, Chapter 4 will explain the qualitative methodology used and the rationale for choosing a qualitative case study approach. Chapter 4 will also describe the methods used in recruiting the participants (who were all clinicians) for the research and the data collection process. Chapter 5 presents the results of the research, first, by narrating the individual stories of the clinicians and second, by identifying the common themes across all clinicians and illustrating them with quotes. The final component of the results Chapter pulls together the rich information provided to reveal a process of change. This leads onto the sixth and final discussion Chapter which proposes a model of change which is examined against the current educational change and medical education literature to provide recommendations for future faculty development in Fiji and the Pacific. The limitations of the research and recommendations for future research are presented, and the thesis ends with a concluding statement.

1.7 Summary

The introductory Chapter has begun the journey of this thesis by presenting the background to medical education development in the Pacific to situate the research in the context of a low-resource setting with faculty development in medical education still in its infancy. The rationale and purpose for conducting the research is to explore ‘how’ Fijian clinicians use their knowledge and skills gained from a medical education
workshop in their teaching practice to add a unique perspective to the current medical education literature and make recommendations for future faculty development in low-resource settings. The structure of the thesis acts as a guide to the contents of coming Chapters and will allow the reader to understand the process of growing medical educators in Fiji. Chapter 2 continues to provide a detailed background to the research by explaining the medical education workshop attended by the clinicians and the evaluation results. This is where the journey began in November 2017 for the clinicians in this research and for the student researcher beginning her Masters thesis.
Chapter 2: Medical Education Workshop in Fiji and Evaluation Results

2.1 Introduction

This Chapter will initially present a detailed description of the medical education workshop attended by the clinicians in this study in order to provide a full picture of where their learning journey started, by explaining the learning objectives, the structure of the workshop and the lessons learnt. The description will provide the background into understanding the way the clinicians translated the lessons learned into their teaching practice.

Subsequently, the initial evaluation data that were collected immediately following the workshop in 2017, will be presented. This evaluation data illustrates the clinicians’ satisfaction with the workshop and which aspects of the workshop they found useful. Ethics approval from UWA HREC has been obtained to report this evaluation data (Reference number RA/4/20/4405). Finally, Kirkpatrick’s evaluation model will be explored as a basis for interpreting the evaluation data already gathered and for guiding the current research study.

2.2 The Medical Education Workshop in Fiji

The medical education workshop was conducted in Fiji over five full days at the end of November 2017. Medical education resources were emailed to the clinicians one week prior to the workshop to provide some preliminary teaching and learning knowledge, and to act as a ‘hook’ to entice the clinicians to learn new knowledge and skills. The workshop was conducted by three facilitators, two experienced medical education teachers from Flinders and James Cook University and the student researcher as the local facilitator (at the time of the workshop the student researcher was a full-time postgraduate student at the University of Western Australia doing her Master of Health Professions Education).

On the first day, the clinicians were orientated to the workshop, learning outcomes and the final formative assessment. Each day had a different educational focus and was designed to scaffold new knowledge and maximise learning through interactive activities and practice. Practical sessions included writing lesson plans, group discussions, role-play,
scrabble, and quizzes to reinforce the new knowledge and practice the new teaching skills. Figure 1 illustrates the scrabble activity on the first and last day of the workshop.

Day 1

Day 5

Figure 1: Scrabble activity about teaching and learning terms on Day 1 and Day 5 of the workshop.

The learning outcomes for the workshop were:

- Describe contemporary theories of learning
- Identify learning needs and develop relevant learning outcomes
- Plan appropriate learning activities for different learners at various stages of learning
- Demonstrate effective teaching by using the principles of active learning
- Apply principles of giving effective feedback
- Use reflection to evaluate teaching and enhance learning

The workshop covered the following topics each day to address the stated learning outcomes:

- **Day 1: Learning.** The theories of learning and how people learn in different ways.
- **Day 2: Teaching:** Lesson plans, Bloom’s taxonomy and developing learning outcomes, and teaching clinical reasoning.
- **Day 3: Feedback:** Techniques on giving verbal feedback, teaching procedural skills, and teaching with patients.
- **Day 4: Assessment and Evaluation:** Teaching with large and small groups, the one-minute preceptor, clinical assessment strategies, and evaluation of teaching and assessment, at the individual and organisational level.
- **Day 5: Putting it all together:** Clinicians were asked to develop a lesson plan, teach their workshop colleagues a skill, assess their peers on whether the skill was attained and provide feedback to another colleague on their teaching using
Pendleton’s feedback method. These were formatively assessed and each participant was provided with written feedback from a facilitator.

At the end of the workshop, the clinicians were given a certificate and a USB (containing the teaching materials) for future reference. The clinicians were asked to complete a paper-based evaluation form immediately after the workshop, which is expanded on in the next section. This feedback was used by the facilitators to improve subsequent workshops.

The workshop in November 2017 trained 21 clinicians from FNU-CMNHS-SMS, including nine specialists and 11 problem-based learning (PBL) clinical tutors. All the clinicians were involved in teaching undergraduate medical students from years one to six in both classroom and clinical settings, and the specialists also supervise and teach postgraduate students.

2.3 Evaluation of the Workshop

A one-page evaluation sheet (Appendix 1) was given to the participants on the last day of the workshop asking how useful they found the workshop, areas for improvement and suggestions for future workshops. The responses were anonymous to increase the trustworthiness of the results. The evaluation sheet was divided into five sections: First to address how useful the clinicians had found the workshop for improving their confidence, knowledge and skills using a four-point Likert scale (not at all, a little bit, quite useful and very useful); second, a free response section for the three most important aspects of the workshop for the clinician; third, a free response section for suggestions of topics that should be included in future workshops; fourth, to ask how useful the clinicians had found each topic in the workshop using the same four-point Likert scale and fifth, a free response section asking for suggestions or comments to improve further workshops. The evaluation was used formatively to improve subsequent iterations of the workshop and provided evidence of the clinicians’ satisfaction with the workshop. The results of the evaluation were analysed using percentages and thematic analysis of the free response sections. All 21 clinicians who attended the workshop completed the evaluation form. A detailed analysis of the evaluation form can be found in Appendix 2. The following section provides a summary of the main findings to illustrate how useful the clinicians found the workshop and the topics they most highly rated to provide the background to the current research.
Overall, the clinicians felt the workshop was very useful and would help them to supervise medical students and recent medical graduates. Over half of the clinicians rated the workshop very useful for improving confidence related to teaching (52%), improving teaching and learning techniques (57%), increasing knowledge of teaching and learning (76%) and revising their existing teaching and learning knowledge (71%).

The clinicians were asked to state the three most useful workshop topics. The most highly rated topics were feedback, lesson plans and planning, active learning, types of learners and evaluation as detailed in Table 1.

Table 1: The most highly rated topics from the workshop

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of clinicians</th>
<th>Percentage of clinicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback</td>
<td>12</td>
<td>57</td>
</tr>
<tr>
<td>Lesson Plan</td>
<td>9</td>
<td>43</td>
</tr>
<tr>
<td>Planning</td>
<td>8</td>
<td>38</td>
</tr>
<tr>
<td>Active Learning</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>Types of Learners/VARK*</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>Evaluation</td>
<td>4</td>
<td>19</td>
</tr>
</tbody>
</table>

*VARK = Visual, Auditory, Read/Write and Kinaesthetic

On the Likert scale for each topic taught, most clinicians rated topics as very useful or useful. The top six topics rated as ‘very useful’ are shown in Table 2.

Table 2: Top six topics rated as ‘very useful’ on a Likert scale

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of clinicians</th>
<th>Percentage of clinicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback</td>
<td>17</td>
<td>81</td>
</tr>
<tr>
<td>Planning Teaching</td>
<td>16</td>
<td>76</td>
</tr>
<tr>
<td>Understanding Learners - VARK</td>
<td>16</td>
<td>76</td>
</tr>
<tr>
<td>Teaching and Learning Cycle</td>
<td>15</td>
<td>71</td>
</tr>
<tr>
<td>Bloom’s Taxonomy</td>
<td>12</td>
<td>57</td>
</tr>
<tr>
<td>Evaluation</td>
<td>12</td>
<td>57</td>
</tr>
</tbody>
</table>
The results from the free responses and Likert scale matched well, with the top subject in both being feedback, followed by planning teaching, VARK and evaluation. The differences were that Bloom’s taxonomy and the teaching and learning cycle were identified as very useful on the Likert scale but were not rated in the top six topics of the free response, while active learning was highlighted in the free response text which was emphasized throughout the workshop but did not have a specific session.

The clinicians provided useful suggestions for future workshops such as running them in non-academic time, providing a summary sheet at the end of each day, linking theory to practice, and including more small group activities such as discussions and role-play in the workshop.

The workshop overall received positive feedback and some comments from the free text boxes included:

“It’s the best workshop I have ever had”

“I liked the USB and written material to help ongoing learning”

“All the material was excellent”

The evaluation of the workshop was positive, however, it only addressed the first level of Kirkpatrick’s evaluation model by addressing the reaction of the clinicians to the workshop. The formative peer education assessment on the last day provided evidence for the second level of Kirkpatrick’s model, acquiring knowledge and skills. So, what is Kirkpatrick’s evaluation model and is it the best tool for evaluating medical education workshop interventions?

2.4 Kirkpatrick’s Evaluation Model

Kirkpatrick’s evaluation model for educational activities has four levels as illustrated in Figure 2. The first level evaluates whether the participants enjoyed the activity, the second level ensures that knowledge and skills have been acquired through assessments, the third level investigates if the skills are being used in the workplace and finally, the fourth level shows whether student learning has been improved and if there has been an impact on the educational organisation.
Kirkpatrick’s model can be a useful framework for evaluating educational interventions (like the medical education workshop) and is used extensively in medical education literature. Steinert et al.’s systematic reviews of 2006 and 2016 use this model as a basis for evaluating the impact of medical education on faculty development. However, a drawback of Kirkpatrick’s model is that it only measures if an outcome such as learning has occurred without exploring how it arose. Yardley and Dornan suggest that Kirkpatrick’s model is suitable for short-term trainings where outcomes are easily measured such as improved handwashing techniques leading to reduced infection rates in post-surgical patients. However, they argue that Kirkpatrick’s model may not be suitable for complex medical education interventions as the outcomes at Levels 3 and 4 are long term and complex. Furthermore, Kirkpatrick’s model assumes that Level 1 leads to Level 2 and so on but does not examine the process of how the outcomes are achieved. Yardley and Dornan advocate that the context and process of reaching educational outcomes must also be researched.

Similarly, the evaluation from the medical education workshop in Fiji indicates that the participants enjoyed the workshop and found it useful fulfilling Level 1 of Kirkpatrick’s model. Furthermore, the formative assessment on the last day showed that knowledge and skills had been acquired (Level 2). This current study aimed to delve deeper into the third level of the hierarchy triangle by not only exploring if change occurred, but also the process of how clinicians in Fiji transfer their learning from the workshop to their teaching practice. Further longitudinal research will be required to investigate the impact on medical students,
junior doctors, and the organisation as medical education grows at FNU-CMNHS-SMS. However, this was beyond the scope of this Masters research project.

2.5 Summary

This second Chapter explained the details of the workshop held in Fiji to provide the reader with the background for the research study. Furthermore, it described the evaluation of the workshop which showed that the clinicians enjoyed the workshop and found it useful to increase their confidence, knowledge, and skills in teaching. The findings from the evaluation also fit with previous research presented in systematic reviews showing participants generally enjoy workshops, which can result in improved attitudes, knowledge, and skills around medical education. Finally, Kirkpatrick’s model of evaluation was explained and critiqued for its usefulness in medical education evaluation. Expanding on Kirkpatrick’s model, this study aimed to not only look at the outcome of Level 3, of changing behaviour in the workplace, but also to explore the process of how the change occurred. The following Chapter will now go on to situate the research study in the broader medical education literature.
3 Chapter 3: Literature Review

3.1 Introduction

The literature review was guided by the research question; ‘How do Fijian clinicians translate knowledge and skills learned in a medical education workshop to their teaching practice?’ To begin with, the definition of faculty development is explored along with the notion of why we need faculty development in medical education. Subsequently, evidence is presented in terms of whether medical education workshops are effective in changing behaviour in the workplace before investigating the qualitative literature around faculty development and how change occurs. Finally, literature from other low-resource settings is examined. The literature research aims to explain what faculty development is and why it is needed before analysing if faculty development, including workshops, is effective in changing practice, especially in low-resource settings. The findings in relation to this study will be expounded and provide justification for this research.

3.2 Search Strategy

In searching the literature involving faculty development in medical education, the key words ‘faculty development’; ‘medical education’ and ‘clinical teach*’ were entered into the databases of Medline, CINAHL and ERIC as well as the University’s online search engine. Articles were reviewed from 2000 to 2017 that were in English. Key systematic reviews16-18 published in 2006, 2012 and 2016, and articles by experts in medical education faculty development4,31,32 were also used to guide the literature search.

3.3 What is Faculty Development and Why Do We Need It?

Faculty development was defined by Sheets and Schwenk33 in 1990 as:

‘Any planned activity to improve an individual’s knowledge and skills in areas considered essential to the performance of a faculty member in a department or a residency programme (e.g. teaching skills, administrative skills, research skills, clinical skills)’. (p.142)
More recently in 2014, Steinert\textsuperscript{34} defined faculty development more widely to not just include planned activities, but also to encompass informal development activities that occur in the workplace, thus her revised definition is:

\begin{quote}
\textit{All activities health professionals pursue to improve their knowledge, skills and behaviour as teachers and educators, leaders and managers, researchers and scholars, in both individual and group settings.}\textsuperscript{(p.4)}
\end{quote}

Whilst this is a much wider definition and incorporates many aspects of faculty development it fails to encompass the changes in attitude and belief through reflection on practice\textsuperscript{35} that are essential elements in changing behaviour. Steinert does address the change in attitude and refers to reflection later in her discourse but has opted to leave them out of the above definition.

The importance of including changing attitudes in medical education faculty development was captured in the following statement from a review of medical education interventions conducted in India by Zodpey\textsuperscript{36} in 2016:

\begin{quote}
The purpose of the Basic Courses in Medical Education Technologies (MET) is to provide the basic knowledge, skills and eventually change the attitude of the faculty in medical colleges which the faculty can implement in their day to day practice in different areas of teaching and assessment (classroom, laboratory, clinical and field work)\textsuperscript{(p. 98)}
\end{quote}

Although this statement does not encompass the wider roles of faculty in leadership, organisational change and research, the course was conducted to focus on pedagogical skills and as Steinert\textsuperscript{34} acknowledges, most faculty development initiatives emphasize building knowledge and skills for improving teaching and learning.

McLean and colleagues\textsuperscript{4} take a more encompassing view and suggests that faculty development should meet the vision and mission of the institution and the needs of the wider community:

\begin{quote}
The personal and professional development of teachers, clinicians, researchers and administrators to meet the goals, vision and mission of the institution in terms of its social and moral responsibility to the communities it serves.\textsuperscript{(p. 560)}
\end{quote}
Based on these definitions, faculty development should aim to improve health professionals’ knowledge and skills in many areas that are required for their professional roles. This can be achieved through a variety of methods that can be formal or informal and conducted for individuals or groups. Furthermore, a change in behaviour is facilitated by altering attitudes and encouraging reflection. Finally, faculty development should meet the needs of the individual, institution and community.

For the purposes of this research, faculty development focused on improving the knowledge and skills for the teaching role of the clinicians and not the wider roles of research, leadership, and administration. Furthermore, the faculty development training was a formal week-long workshop, however, the informal avenues of learning were also explored during the research, and the process of change in behaviour was identified, with an emphasis on the individual clinician.

Now that we have a definition of faculty development, why do we need it? The old adage of ‘See one, do one and teach one’ that most doctors learnt worked when the apprenticeship model of training was used. However, it was realised that teaching is not an innate quality in clinicians and with the increasing demands of ensuring quality training for health professionals the realm of faculty development was established.

Many advocate for the need of faculty development including the WHO, experts in medical education faculty development and, increasingly, national bodies are requiring that medical schools have a faculty development unit and that those employed to teach at all levels of undergraduate and postgraduate training must be competent to teach.

Since the advent of faculty development, various types of training have been developed from one-hour seminars to short courses and workshops, and also formal qualifications like postgraduate degrees in medical education. Currently, there is not a standardised framework for faculty development and indeed it is argued that a ‘one-size-fits-all’ cannot be designed, as the needs of the faculty, institution and community need to be considered when designing programs. However, most courses aim to cover the essentials of teaching and learning including educational theories, teaching small groups, lecturing, feedback and assessment. The workshop conducted for this research covered these aspects and was detailed in Chapter 2.
The argument for faculty development is that it will enable faculty to teach and assess effectively which will improve student learning. These students will then become competent and caring doctors leading to better patient outcomes. However, currently there is little evidence that faculty development programs and courses lead to a change in teaching practices, let alone improving student learning and patient outcomes. So what evidence is there that faculty development workshops are beneficial in medical education?

3.4 Do Workshops Work?

Bligh in his editorial on faculty development suggested that successful faculty development should lead to improved teaching and student outcomes. Furthermore, it would increase morale and promote teaching staff retention. He acknowledged the importance of the workplace culture on faculty development initiatives and advocated for learning that was active, reflective, and used social constructivism. Finally, he posed the question ‘What is the best way to deliver medical education training to faculty?’ This following section will examine the evidence for whether workshops are an effective way to train faculty, firstly through three systematic reviews of medical education faculty development and then through three individual studies. The three systematic reviews on faculty development initiatives were undertaken in 2006, 2013 and 2016 to review the evidence for faculty development resulting in a difference to outcomes and to make recommendations for future faculty development initiatives and research into this emerging area.

The first review by Steinert et al. in 2006 focused on research around medical education faculty development for improved teaching from 1980–2002. They used Kirkpatrick’s evaluation model to assess the research papers and only looked at those who evaluated Level 2 and above, i.e. a change in knowledge and skills, a change in behaviour or an effect on the organisation and/or student learning. Although satisfaction with faculty development (Level 1) was also included in many of the studies, it was not the only outcome measure. The majority of articles reviewed were from the United States (US) and involved clinicians who had volunteered to attend; thus it must be questioned whether the findings can be directly translated to low-resource settings.

Furthermore, the definition of a workshop was broad, usually involving a once-only intervention that could last anything from three hours to one week, with a median of two days. Their conclusion that long-term interventions are better than workshops may be true,
but it would be more robust to compare like with like, for example, analysing workshops that were three days in length to seminars that were one day a month for three months to compare the outcomes. When considering the outcomes reported from the workshops, the majority reported participant satisfaction and self-reported changes to learning and behaviour. From analysing studies that had included observation of teaching there were mixed results with one study finding that observation matched self-reported changes and another finding it did not. With those inconclusive results Steinert and colleagues recommended that further research be conducted using randomised control trials to explore the impact of faculty development and to determine the best faculty development strategies. Moreover, they advocated using qualitative methodologies to explore how change occurs during and after faculty development initiatives.

The second review published in 2013 by Leslie et al.18 analysed literature from 1989–2010 but excluded those that had been reviewed by Steinert et al.16 A similar framework was used looking at program design and outcomes using Barr’s modified Kirkpatrick’s evaluation framework.40 The articles reviewed examined more longitudinal programs, although some of these were as short as 10 days and their definition of a workshop was less than one day. Again, most studies were from the US or Canada which limits the application to low-resource settings. The outcomes measured were mostly self-reported using surveys and changes in behaviour were measured by the number of workshops conducted by the participants after the training or research activities completed. Furthermore, although most programs included teaching methodologies many were focused on other faculty development areas such as leadership or research. The findings cannot be directly related to this study as the faculty development initiatives were broad and the outcome measures did not look at a change in teaching practice. However, their recommendations for further research included exploring communities of practice and investigating how the organisation and context affect faculty development programs were applied to this research study.

The most recent and third review conducted in 2016, again by Steinert et al.17, was a 10 year follow up to the first review and once more focused on faculty development for the improvement of teaching practices. It followed a similar design used for the 2006 review, although it also investigated the development of communities of practice, and 111 articles published between 2002–2012 were reviewed. As before, most articles were from the US and although it was noted that there was an increase in longitudinal interventions and a
decrease in workshops being researched there were no definitions given for these or for how long the educational interventions were conducted. The results suggested that there is a change in behaviour after attending a workshop but again these were mainly self-reported changes and very few studies confirmed these changes through observed teaching practice. The recommendations from that review included broadening the focus of faculty development to include organisational change; for longitudinal programs as they appear to have other benefits such as building communities of practice and time for reflection and feedback; moving faculty development away from the workshop and into the workplace by encouraging peer observation and guided reflection; fostering communities of practice and encouraging institutional support for faculty development. The fact that most of the studies were conducted in developed, ‘high-income’ countries with established faculty development departments allowed more longitudinal interventions to be conducted. In the Pacific setting, where there is no department or experts to run the programs, the feasibility of faculty development meant that workshops were considered the best avenue for training. Steinert et al.’s recommendations are laudable but may be difficult to attain and transfer to a low-resource setting. They also called for research to be conducted using qualitative methods to explore the process of ‘How’ and ‘Why’ faculty development initiatives work, using triangulation of data to increase the reliability of findings and including observation of teaching practice along with monitoring change over time.

The three reviews acknowledged that if workshops used adult learning principles and experiential learning for their delivery then the majority of studies on workshops found participants enjoyed the intervention, gained knowledge and skills and it had led to self-reported teaching changes in attitude and behaviour. However, there was little evidence for observed changes in practice or an effect on the organisation and student learning at the higher levels of Kirkpatrick’s evaluation framework. Furthermore, the definitions of a workshop were broad and as the authors acknowledge there may be a publication bias towards research conducted in developed countries and reporting positive results. The reviews highlighted the need for further research and the recommendations for using qualitative methodologies to understand the process and the context of changing teaching practice, triangulation of data and observation of teaching guided the methodology and provides a clear justification for this research study. The review will turn now to some individual studies on how workshops influence future teaching practice.
Three studies were analysed to help understand how medical education workshops can change practice. Green and colleagues\textsuperscript{43} integrated teaching skills with clinical content in a faculty development workshop and showed improvements with a pre- and post-intervention questionnaire. They concluded that integrating teaching skills in workshops focused on clinical improvements was an effective way to improve teaching practice. However, there was no observation of practice and the results were only from self-reported improvements, nevertheless the concept of combining teaching skills with updates in clinical content may attract more clinicians to attend. Eckstrom\textit{ et al.}\textsuperscript{44} compared teacher and student evaluations after a one-minute preceptor workshop and found that although the teachers felt they had improved; the students did not identify any change. This study shows that self-reported improvement may not be reliable to show a change has occurred and led the student researcher to consider observation of teaching as a corroborator of self-reported change. Shields\textit{ et al.}\textsuperscript{45} looked at student ratings of tutors over three years and found the ratings improved after a faculty development workshop on being a discussion leader, however, there was little detail on whether these were the same students throughout or if all faculty had attended the workshop. Their study highlights the need to consider the evaluations of the students to provide a better picture of the effect of faculty development medical education interventions and led to student evaluations being considered for this research, but it was beyond the timing and scope of this Masters thesis.

The systematic reviews and individual studies presented are useful in highlighting the areas of faculty development that need to be addressed and the recommendations they provide such as developing communities of practice, peer learning, and using more qualitative approaches can be considered in designing future faculty development initiatives and research studies. However, we must be mindful that the individual studies were all very different, using various educational designs, lengths of time for training and evaluation processes. Furthermore, most studies were conducted in developed countries and although resources for medical education differ across contexts, many of the studies were conducted from established medical education units. Nevertheless, the insights gained from this previous research informed the research study question and methodologies. So, having established that workshops are enjoyable and can improve knowledge and skills, although there appears to be little evidence for a change in practice, is there any research that identifies how workshops work?
3.5 How do Workshops Work?

As advocated by the three systematic reviews, there has been an increase in qualitative studies to explore the impacts of faculty development, its translation into practice and how it affects the clinical educator. Five qualitative studies concerning faculty development in medical education were analysed to gain further understanding about the process of faculty development. These included a qualitative case study\(^{46}\) looking at the effect of a workshop on teaching; a process evaluation\(^{47}\) of a faculty development training; a study on workplace affordances\(^{48}\); a realist evaluation of faculty development\(^{49}\) and finally a study on what it means to be a clinical educator\(^{50}\). These qualitative studies were explored to gain insights from their findings to guide this research study.

First, the qualitative case study conducted in Korea by Lee et al.\(^{46}\) used interviews with six clinicians and three focus groups with students to investigate the effect of a medical education workshop on faculty teaching. They identified three themes of: Ignorance to awareness; intuition to confirmation and individual to communities of practice. A limitation of this research is they did not observe the teachers to confirm if the self-reported changes could also be seen. The student focus groups were conducted to confirm the claims of the teachers, but these were poorly reflected in the themes identified. Furthermore, as only six clinicians were interviewed, and the student focus groups were just for three of the clinicians the results are difficult to generalise. In addition, the quotes used did not always fully reflect the identified theme. However, the theme for individuals to communities of practice adds credence to the recommendations from Steinert\(^{37}\).

Second, Kim et al.\(^{47}\) conducted a process orientated evaluation on an eight-week faculty development initiative for Cambodia, Myanmar and Laos. They conducted individual interviews and one focus group with eight participants. Their thematic analysis was based on O'Sullivan and Irby’s framework for faculty development\(^{51}\) which suggests that faculty development must consider the context, the facilitators, the program, and the participants and how these affect the faculty development program and the workplace. Kim and colleagues found under the theme ‘context’ that lack of resources, the cultural background and educational environment were perceived to affect the faculty development program. For the ‘facilitators’ theme, the teaching methods, use of English and collaboration were inhibitors or facilitators. Next, the ‘program’ was found to be applicable to the workplace and allowed time for reflection, however, the selection processes for participation in the
program were thought to be flawed. Finally, the theme ‘participants’ found that the heterogeneity of the group along with their cognitive and non-cognitive attributes had both a positive and negative impact on the training. Whilst all these factors are important, they do not really answer the ‘How’ faculty development initiatives work, they just focus on factors that may influence the process. Additionally, there was no stated qualitative methodology used and utilisation of a framework to analyse the results may have limited the findings. Nevertheless, it is commendable that Kim et al.\(^47\) identified themes that impact on faculty development for participants from low-resource countries and the results should be further researched in similar settings.

Third, a study by Kumar and Greenhill\(^48\) in Australia explored how clinical educators use their education skills in the workplace using a qualitative thematic framework of workplace affordances from interviews with 12 clinical educators and six managers. There was no specific training intervention being evaluated and the participants, who were mainly nurses, were identified as having an educational role. They identified three themes that assisted educators transferring their knowledge and skills to the workplace. First, the context of the workplace was important, depending on the support for faculty development and the educational requirements of the workplace. Second, the individual person played a role depending on their motivation and wanting to develop their own knowledge and skills, and third, the interactional theme was found to assist by providing professional networks and the opportunity to share knowledge and skills. Kumar and Greenhill noted that the three themes intersected and overlapped, for example, the workplace environment could impact on the motivation of the clinicians and the ability to network. Although there was no specific educational intervention, the themes identified resonated with the student researcher and guided the development of the interview questions.

Fourth, Sorinola et al.\(^49\) conducted a realist evaluation by interviewing eight directors and eight teachers from different medical schools in the UK. Realist evaluation considers the context, mechanism, and the outcome of an intervention. Sorinola and colleagues identified four themes of engagement, motivation, positive perception, and professionalisation, which related to the context, mechanism, and outcome of faculty development initiatives. Those findings highlight the perceived facilitators to learning and application to the workplace, however the evidence for actual change in the workplace and the impact on students was only reflected in the directors’ interviews. Sorinola et al. argue that the directors observe the teachers and analyse feedback from the students therefore their comments represent
Level 3 and 4 of Kirkpatrick’s evaluation. Nevertheless, the interviews may be open to bias depending on the perceptions of the directors to the observed teaching and student feedback. Furthermore, the medical education interventions were varied and had occurred at least two years prior to the interviews and so the findings were not directly related to a specific intervention.

Finally, Higgs and McAllister\textsuperscript{50} explored the concept of being a clinical educator and conducted interviews with five speech pathologists in Australia. They identified that the change in teaching practice starts with the person themselves and then with their relationship with others. Next, the person develops the sense of being an educator with a purpose before they can use workshops to promote their growth and change. Unfortunately, these findings were based on only five people and the findings need to be further evaluated for transferability in other contexts.

From these five qualitative studies, multiple viewpoints and perspectives emerged on what influences the success of education training and how it leads to people changing their teaching practices. Each has explored faculty development through a different lens and used various qualitative methodologies. Most have relied on interview data only from participants and/or their managers and have not observed practice to confirm change has occurred. So, are there commonalities across these qualitative study findings? All the studies address the importance of the individual in being central to the change process, with four studies also noting the relevance of interaction with others and three acknowledge the context and its impact on faculty development. As with the studies about ‘If’ faculty development initiatives work, the majority of these studies were conducted in developed countries. Further research into ‘How’ faculty development leads to change in low-resource settings is clearly needed using robust qualitative methodology.
3.6 Low-Resource Settings and Faculty Development.

Not surprisingly, there was limited research conducted in low-resource settings around faculty development found in the search and none in the Pacific. Research from Pakistan, Iran and Asia looking at the impact of faculty development training were found and are considered next.

A retrospective study conducted in Pakistan52 aimed to compare workshops, courses and seminars in faculty development but only looked at participant satisfaction, concluding that teaching and learning initiatives were positive for professional development. Another study from Iran53 compared concise (6 days), intensive (1 month) and longitudinal (6 months) medical education courses and looked at differences in perceived self-efficacy and empowerment in participants that have been linked to improved teaching practices. They found that the intensive and longitudinal courses were better, however, these two courses had the same content and the 6-day course was different. Furthermore, there were only between 9 and 12 participants in each group which is an extremely small data set for statistical analysis. Additionally, there was no evidence of a change in practice.

Kim et al.54 evaluated a six-week program in Asia training faculty from Cambodia, Laos, Vietnam, Myanmar and Mongolia. They identified the difficulties of implementing medical education initiatives in developing countries due to the lack of human and financial resources and evaluated the program using Kirkpatrick’s model23 from Levels 1-3. All participants were satisfied with the program, although as the authors note this may also be due to their cultural background and wanting to please the facilitators of the program. The participants self-reported gains in knowledge and skills, however the program facilitators assessed the participants portfolios and reported the gains in knowledge were less than those self-reported. At Level 3 all participants had returned to their home counties and conducted training workshops. Kim et al.54 noted that the initiatives conducted by the participants in their home countries were those that were most feasible rather than the most urgent and he suggested that further research needed to be conducted into ‘How’ change occurred, especially in low-resource countries.

These studies highlight the need for quality research to be conducted in low-resource settings. As identified in Kim et al.’s54 research there are difficulties due to a lack of human and financial resources, as well as training in research methods. McKimm and colleagues22 acknowledged that faculty development in low-resource settings is hindered in many ways
advocating that the people, the culture and the organisation need to be addressed for medical education development to progress which correlates with the individual, the relationships and the context identified in the qualitative studies above. Burdick\textsuperscript{55} also advocates that building communities of medical education professionals is the ‘secret sauce’ in promoting faculty development in low-resource countries from their experience at the FAIMER institute. These ideas from medical educationists who have worked in low-resource settings add to the findings from previous research conducted and further validate the need to understand how medical education faculty development initiatives are effective in low-resource settings.

3.7 Summary of Literature Review

In this Chapter, the medical education literature has been searched to define what faculty development is and why we need it, to report on the evidence for the effectiveness of medical education workshops and how faculty development leads to change. Lastly the limited research from low-resource countries was examined for further insights to guide this research study.

The definition for faculty development is wide and deep, incorporating the many roles faculty fulfil and addressing the individual, the organisation and the community. In addition, it acknowledges both formal and informal learning and the need for an individual to be motivated to reflect in order to implement and sustain change. Furthermore, medical education faculty development is advocated to improve teaching skills which will enhance student learning and then presumably improve patient outcomes. However, the evidence for a change in teaching practice is slim and many studies have focused only on self-reported change. Mostly researchers have relied on an outcomes-based model of evaluation and there is a call for investigating the process of change. The qualitative research on faculty development highlighted the individual, the community, and the context in the process of change, but as with most of the literature reviewed, the findings were mainly from studies conducted in developed countries. The literature from low-resource settings highlighted the need for more qualitative research in the area of faculty development. The gaps in these findings guided the research question and the methodology used for this study, which is presented in the next Chapter.
4 Chapter 4: Methodology and Methods

4.1 Introduction

The following chapter will first explain some terms associated with the philosophy of qualitative research and how this study addresses them. It will then discuss the different qualitative methodologies and why a qualitative case study method was chosen to conduct this research. Finally, it will describe the methods used to recruit the participants, the data collection tools, and the data analysis process.

4.2 Qualitative Methodology Philosophy

4.2.1 Introduction

The underpinning of qualitative research is that there is no absolute truth and that our understanding of the world is influenced by our values, beliefs, and the context of our experience.\textsuperscript{20,56} Qualitative research aims to explore the lived experiences of people in their natural environment and attempts to find common themes across these unique experiences to further understand a phenomenon.\textsuperscript{20,56,57} Several terms are used in qualitative research such as Ontology, Epistemology, Axiology, and Paradigms to help explain the underpinnings of the philosophy.\textsuperscript{20} These terms will now be explained along with their relevance to the current research study.

4.2.2 Ontology

A qualitative approach assumes that there are multiple realities rather than one objective reality and explores the reasons behind the phenomena observed. This is also known as the ontology of qualitative research and believes that the journey for each individual will be different.\textsuperscript{20} For this study, it was assumed that each clinician would have their own personal journey that included their learning experiences in the medical education workshop and then how they used the new knowledge and skills in their teaching practices. Although they all attended the same workshop and work in similar education roles in the same institution, we cannot assume that everyone will have learnt in the same way or which aspects of the workshop they found useful for their teaching practice. The similarities amongst these unique journeys will be distilled into themes that cut across the different learning journeys and be used to answer the research question.
4.2.3 Epistemology

Epistemology is concerned with how we know what is true.\textsuperscript{20} The epistemological approach in qualitative research states that the researcher should be involved with their participants and develop rapport. This is recommended so that the researcher fully understands the participants reality and can interpret the information collected accurately.\textsuperscript{20} This is in stark contrast to a quantitative approach, often used in medical research, where objectivity and distance from the participants is seen as necessary for reporting the findings. The student researcher for this study had already built a rapport with the participants having worked with them for up to thirteen years in her role as PBL tutor and Years 1-3 coordinator for the MBBS at FNU (known as FSM prior to 2010). She was also a facilitator for the medical education workshop. The mutual trust and respect between the researcher and participants was needed for this qualitative research to be successful because the participants were required to be honest in their reflections.\textsuperscript{56} Furthermore, having worked with the participants in the same environment, the student researcher understands the context of the journal entries and has valuable insight into the participants’ experiences.

4.2.4 Axiology

Axiology refers to being aware of one’s own values, beliefs and biases as a researcher when interacting with participants. This is necessary because the researcher is key to gathering the information and interpreting the data. This awareness is also known as reflexivity, by which the researcher tries to identify their own biases and put them to one side whilst interpreting the data. The biases can be minimised by using three methods: first, by triangulation, that uses more than one source of data to analyse the findings; second, by having two independent people to interpret the data and, third, by member checking\textsuperscript{20,58,59} (checking with the participants that you have interpreted their story in the way it was intended). For this study, the above three methods were utilised to minimise researcher bias. Furthermore, the student researcher realised that although she wanted the workshop to have been successful, she needed to be mindful that there could be several reasons for participants not being able to use the lessons learnt in the workshop in their teaching practice and that these insights would help to improve her own role as a medical educator and faculty medical education development in the future. Apart from the biases from the researcher, it must also be recognised that the participants and the readers of the research will also have biases depending on their own experiences, beliefs and values around the scholarship of teaching and learning.\textsuperscript{20,60} These cannot fully be controlled for, but it is
incumbent on the researcher to try and understand the results and report them in a simple, clear and concise way to reduce these biases.

4.2.5 Paradigms

Paradigms are models or worldviews used in qualitative research. Creswell\textsuperscript{20} explores post-positivism, social constructivism, advocacy, pragmatism and critical theory paradigms. Creswell acknowledges that there are many more paradigms used but focuses on these five main themes. Post-positivism aims to reduce the bias from the researcher and looks at more objective evidence in order to test theories and create new knowledge using a more deductive lens. Social Constructivism is more about each individual’s journey which is explored through interviews and observing. It uses an inductive approach to create new ideas. Advocacy research aims to highlight issues in communities who are marginalised, and often has a political agenda. Pragmatism aims to ensure that research ends in change, using several different data sources. This approach attempts to provide evidence that will improve the world. Finally, Critical Theory attempts to change people’s views about disadvantaged people through their stories.

So where does the current research sit amongst the above paradigms? Primarily, this research takes a pragmatic approach as it aims to highlight how clinicians use the workshop knowledge and skills in their teaching practice, including identifying the facilitators and barriers to implementing the medical education teaching techniques acquired. This will be explored through several different data sources including reflective journals, interviews, lesson plans and videos of teaching. Through the common themes identified in the research, evidence for the best way forward in faculty development in medical education for Fiji will be recommended. However, the lens of social constructivism will also influence the outcomes as each individual’s journey is explored and new insights are found throughout the research process. In addition, advocacy will need to be considered to allow the clinicians’ a voice in the University hierarchy to advocate for change. It seems rather artificial to demarcate the paradigms as separate entities. Each research project will have a main focus, but the other paradigms may influence the final outcome depending on the agenda of the researcher and the participants.
Figure 3 illustrates how the qualitative case study is at the centre of the paradigms of qualitative research, social constructivism, and pragmatism. By listening to the clinician’s individual stories, building rapport and practising reflexivity the clinicians’ voices will be heard to advocate for change.

![Figure 3: Paradigms of qualitative research relevant to this case study](image)

### 4.2.6 Summary

The above section has explored qualitative research through ontology, epistemology, axiology and paradigm frameworks and established that this research is primarily pragmatic with social constructivism in its approach. Furthermore, the research acknowledges that each individual participant will have their own unique learning journey to describe which will be captured through establishing rapport with the participants and collecting several different data sources. Moreover, the researcher will use reflexivity, member checking and independent analysis across the data sources to ensure that reflexivity is embedded in the research process and bias is kept to the minimum. Next, the qualitative methodologies will be explored and a rationale for choosing a case study approach will be described.
4.3 Qualitative Methodologies

4.3.1 Introduction
The five main approaches to qualitative research as described by Creswell include phenomenology, ethnography, case studies, narrative and grounded theory. Whilst this research primarily used a case study approach, the student researcher also considered the influence of phenomenology, ethnography, narrative inquiry and grounded theory. The following section will briefly explain the above methodologies used in qualitative research and how they relate to this study. It will then go on to explore the case study approach in more detail as the main methodological approach.

4.3.2 Phenomenology, Ethnography, Narrative and Grounded Theory
Creswell explores the above five main qualitative methodologies after comparing many qualitative authors from psychology, nursing education and the social sciences. He provides a clear outline of each methodology to qualitative researchers to assist them find the best methodological fit for their research question. As a student researcher exploring these methodologies valuable insights from each were identified which could contribute to the answers for the research question. The four other methodologies (apart from case study) will now be considered and how they may inform the answers to the research question.

**Phenomenology** explores people’s lived experience of a phenomenon and the research is usually conducted through interviews. For example, research may investigate what it is like to be a war veteran. Some aspects of this research will explore what it is like for a clinician to be a medical teacher, but this is not the main focus of the research. In a similar way, **Ethnography** looks at the shared understandings within a community that define its culture. The clinicians in the Fiji National University do share a culture of teaching medical students within the institution that is based in a low-resource setting and some aspects of this may come through in the analysis and be important in providing the context in which the research is being conducted. Additionally, as the student researcher considered **Narrative** methodology, she realised that the stories of clinicians at the Fiji National University will come through their journals and interviews and should be explored individually before cutting across the data looking for common themes. Finally, the concept of **Grounded Theory** was considered, but there are existing theories around faculty development and translation of knowledge into practice. This research may modify existing theories or even propose a new theory but it was not the original aim. Once again,
we can see that although one methodological approach was chosen as the main focus the characteristics of other qualitative methodologies helped the student researcher consider many angles during analysis. How does the culture of the medical school influence the translation into practice? Are the stories of each clinician similar or different as they translate knowledge and skills into practice? How does their experience of being a medical teacher affect their learning? Are there any new insights to be learnt from the analysis that can inform theory? Each of these questions will help inform the analysis but will not fully answer the main research question. Thus, the methodology of qualitative case study was chosen as the best fit.

4.3.3 Qualitative Case Study Methodology
Having explored the philosophy of qualitative research and briefly explained the other methodologies used in qualitative research and their relation to the current research, we turn now to examine qualitative case study as the main methodology used in this research. The philosophy underpinning qualitative case study research is that there is no absolute truth as findings are dependent on the context and the perceptions of the participants.\textsuperscript{56,64} However, by studying several different data sources the researcher applies some objectivity, and attempts to find the ‘truth’ through the subjective findings by looking for similarities or differences between the data sources. The aim of qualitative case study research is to study a phenomenon through several different data sources to get a better understanding of the ‘whole’ in a particular context.\textsuperscript{64-66} Qualitative case study methodology is also advocated when a phenomenon can be best studied in its natural environment and the research is informed by several data sources.\textsuperscript{64-67} When considering qualitative case study research, the researcher is directed by the literature\textsuperscript{20,57,59} to three main authors, namely Yin, Stake and Merriam who all agree on the above definition.

The following section will explore qualitative case study research from the perspectives of Yin\textsuperscript{65}, Stake\textsuperscript{66} and Merriam\textsuperscript{64} and discuss two opposing viewpoints on whether the different approaches can be combined.\textsuperscript{68,69} Finally, the rationale for choosing a qualitative case study methodology for this research will be presented.

Yin states that the case study approach is ideal for investigating the ‘how’ and ‘why’ questions, exploring situations in which we have little influence and investigating the context of a phenomenon in real life.\textsuperscript{56,65} Other approaches to qualitative case study research are proposed by Stake\textsuperscript{66} and Merriam\textsuperscript{64}. Stake\textsuperscript{66} proposes that the case must be
‘bound’ in time and place, holistic in considering the phenomenon and the context, based on observation in the field and that the researcher should use their intuition when interpreting the data. Stake\textsuperscript{66} also emphasis needing an emic perspective (an insider perspective) when reflecting on the information gathered. Merriam\textsuperscript{64} also advocates studying a phenomenon in a bounded context but is less prescriptive on what can be included as a case compared with Stake. Merriam posits that a case study must focus on a specific program or person (Particular), the case study must delve deeply into the phenomenon (Descriptive) and must help the reader to understand the phenomenon (Heuristic). Yin, Stake and Merriam all agree that a case study should investigate a phenomenon in relationship to its context, however, they differ on their approaches to the case study design.

Yin describes three types of case study:

1. Explanatory: To explain how program implementation leads to program effects.
2. Exploratory: To explore a new intervention where there are no clear outcomes.
3. Descriptive: To describe the intervention and the context.

Stake, however, uses a different subdivision of case study research and describes the following three types:

1. Intrinsic: To study a case because it is interesting and not to derive a theory from it.
2. Instrumental: To help develop or change a theory; the case being used to help prove the theory.
3. Multiple: More than one case is studied.

Crowe et al\textsuperscript{67}, however, argue from their experience in doing case study research that the above typologies are not fixed and that although a case may begin as an ‘Intrinsic’ study it can develop into an ‘Instrumental’ case and likewise during an ‘Exploratory’ case study an ‘Explanation’ of program effects may be identified. Merriam\textsuperscript{64} does not have these ‘types of case study’ but rather suggests that the researcher reviews the literature and designs a theoretical framework to answer the studies questions.

When designing a case study, Yin\textsuperscript{65} advocates for a structured design using theories from the literature as prepositions to analyse the data using a more deductive lens, whereas Stake\textsuperscript{66} suggests using a more flexible approach to allow the emerging data to guide the design of the study. Merriam\textsuperscript{64} provides a balance, proposing that the literature should inform the theoretical framework for the study but allow for flexibility when new insights
are identified. All of them agree that multiple sources of data must be collected although Yin encourages researchers to use more than three and that the data from the different sets should be used to validate findings and prepositions. For example, a theme identified in the interview must also be identified in the observations as well as aligning with the preposition to hold true. Stake, however, advocates that the researcher should be guided by their own impressions and intuition with a healthy dose of sensitivity and scepticism as they analyse the data. Merriam again provides the middle ground, advocating for continuous analysis and interpretation of the data to make sense of it with reference to previous findings in the literature.

The above similarities and differences between the three approaches have led to debate in the literature on whether you can combine the three views or whether they are separate entities. Boblin et al. propose that the case study methodologies of Stake and Yin cannot be combined due to their different philosophical standpoints. Stake takes a constructivist view and Yin takes a post-positivist standpoint. However, Yazan who compares Yin, Stake and Merriam’s approaches advocates that the novice researcher can combine the approaches to suit their case study design, whilst acknowledging the different philosophical underpinnings. Yazan argues that the approaches and descriptions from Yin, Stake and Merriam complement each other so that the novice researcher can be guided through the labyrinth of qualitative case study research by drawing on the strengths of each case study approach.

As the student researcher explored each of the above theories on case study research and read about the experiences of other researchers, she agreed with Yazan and Crowe and began to draw on the strengths of each theory to inform the case study approach for this research. The following section outlines the rationale for using a case study approach and which aspects from the above theories have been incorporated into this study.

A qualitative case study approach was chosen for this research as the main question was “How do Fijian clinicians translate knowledge and skills learnt in a workshop to their teaching practice?” As Yin states, the case study approach is ideal for investigating the ‘how’ and ‘why’ questions, exploring situations in which we have little influence and investigating the context of a phenomenon in real life. The researcher wanted to discover ‘how’ the Fijian clinicians were translating their new knowledge and skills to their teaching practice in their natural, unique environment to inform future faculty development
in medical education in Fiji. Thus, the researcher used a qualitative case study approach to explore the phenomena in the subjects natural setting and used an inductive approach to define common themes following Stake and Merriam’s approaches to data analysis. An inductive approach was chosen to keep with the underlying philosophy of pragmatism and social constructivism.

The research was a single, instrumental and explanatory case study around the medical education workshop in Fiji and how it was translated into practice in the context of Fiji. It was ‘Instrumental’ as the research aimed to inform the best practice for faculty development and ‘Explanatory’ as it intended to show how the workshop had led to changes in participants’ teaching practice. The case was also bounded by clinicians who had attended the 2017 medical education workshop. As there will be multiple individual realities from the different clinicians, similarities and differences can be identified. Furthermore, an inductive approach was used for the data analysis using the literature as a guide, as Merriam advocates. A limitation of this research is that it is a single case study in a Fijian context and it is envisaged that with more time and funding that the research can be expanded across the Pacific.

4.3.4 Summary
In this section, the qualitative methodologies of phenomenology, ethnography, narrative and grounded theory have been considered and their influences on this research before focusing on qualitative case study as the main methodology. Qualitative case study methodology was examined from the viewpoints of Yin, Stake and Merriam before justifying this methodology for the current research. Now that the rationale for a qualitative case study has been presented, the following section will describe the multiple data collection methods required for qualitative case study research.

4.4 Data Collection Methods

4.4.1 Introduction
The following section on data collection methods will first illustrate how the researcher located the case study site and established rapport with the participants (from here the participants will be referred to as clinicians) before inviting the clinicians to take part in the research. Second, each data collection method will be described, including the reflective journal, interviews, lesson plans and video of teaching. The rationale for choosing the data collection methods will be explained, the development of the tool and then how it was used.
in the research study. Third, the challenges of collecting the data will be explored and how the researcher ensured the confidentiality of the clinicians. Fourth, the aspects contributing to the trustworthiness of the research will be presented. Finally, the data analysis will be explained, including the rationale for the data analysis approach, how it was conducted, and the process of member checking with the clinicians. Figure 4 illustrates the research process of data collection and analysis.

Figure 4: The research process of data collection and analysis.
4.4.2 Locating the Case Study Site

The case study site of FNU was chosen as it was a unique setting as medical education development is in its infancy and it is also a low-resource setting.\textsuperscript{1,2} Therefore, insights from this case study may be different from other settings where medical education is well established. Furthermore, the Fiji medical school clinicians were well known to the researcher. The case study was bounded by studying Fijian clinicians who had attended a medical education workshop in November 2017 and were currently working in a teaching role at FNU. Additionally, these clinicians were chosen as the workshop had been held in November 2017 and the recency of the workshop would enable the clinicians to recall the lessons learnt more readily than from similar workshops held in 2015 and 2016 as reported in Chapter 1.

4.4.3 Gaining Access and Establishing Rapport

To gain access to the clinicians, ethics approval was sought from both the University of Western Australia and FNU. Ethics approval was granted on the 5\textsuperscript{th} and 6\textsuperscript{th} April 2018, respectively. (UWA – RA/4/20/4300; FNU – CHREC 2018.58.C.D). Once ethics had been approved, permission was sought from the Head of the School of Medical Sciences (SMS) at FNU to allow the personal assistant for SMS to provide the emails of the clinicians who had attended the 2017 medical education workshop. The work emails of the eligible clinicians were sent to the student researcher.

Rapport was established prior to the workshop because the student researcher had previously worked with many of the clinicians, especially the PBL tutors, prior to leaving Fiji for her postgraduate studies. The workshop held in November 2017 was enjoyable and allowed the student researcher to re-establish good relationships with the clinicians by listening to their experiences from the past year.

As an incentive, the student researcher applied to the Fiji Medical and Dental Council for the clinicians to be able to count participation in the research towards their continuing professional development points. It was proposed that clinicians could claim six hours for their participation as they were going to reflect on their teaching practice for this research study. The Council agreed to the proposal on the 13\textsuperscript{th} April 2018 (Appendix 3).
4.4.4 Inviting Clinicians

An initial email (Appendix 4) was sent to the 20 eligible clinicians inviting them to participate in the research on the 16th April 2018. The participant information form and the consent form were attached (Appendix 5). This initial email was sent from the student researcher’s supervisor, to ensure that the clinicians did not feel pressured to participate, as the student researcher had a previous close working relationship with the clinicians.

A reminder email was sent to clinicians who had not responded to the first email on the 23rd April 2018. Clinicians were once again invited to participate but were also given the option to complete fewer aspects of the research if lack of time was a reason they could not participate.

Initially, clinicians were invited to complete six reflective journal entries, participate in up to three interviews, provide two lesson plans and video the lessons for those plans. As this may have been too large a task for some, the second invitation asked clinicians to consider participating even if they could only do a few journal entries (audio-recorded if preferred), one interview and one lesson plan with a video.

Six clinicians responded to the first e-mail, two PBL tutors and four specialists. Both PBL tutors agreed to participate and three of the specialists.

After the reminder email was sent, eight more clinicians responded, an additional four PBL tutors, with two able to participate in the research, and four specialists with three volunteering to be part of the research. The four clinicians who were unable to participate cited increased duties due to a lack of staff in their department or were also trying to complete their own postgraduate studies and thus felt unable to give the required amount of time to participate in the research. Six clinicians did not respond to the initial and follow up invitation email.

In total, 10 clinicians from the 20 eligible 2017 workshop participants agreed to participate in the research, including four PBL tutors and six specialists. Unfortunately, during the time in the field, one clinician had to withdraw from the study as he was the lone practitioner in the department. Table 3 provides a summary of the clinicians’ email responses to participate in the research.
Table 3: Clinicians’ response to participation in the research

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4.4.5 Collection of Data

Data collection occurred using three methods: first, a reflective journal with follow-up interviews, second, lesson plans and third, videos of clinicians teaching practice. The clinicians were first asked to complete a reflective journal. The journal contained guiding questions that prompted them to reflect on one teaching episode each week for six weeks over the second and third “block” teaching times between May and July 2018. Follow-up interviews were then conducted to further explore the written reflections in the journal. In addition, the clinicians were asked to video two teaching episodes and submit the written lesson plans for these videos of teaching. The rationale for choosing three different data collection techniques was to analyse and cross reference from different perspectives (e.g. reflections on self-reported changes and observation of actual behaviours/actions) to gain a deeper, richer understanding of how the clinicians translated lessons learnt from the workshop into their teaching practice. In the following section, the rationale and development of each of the data collection methods will be described.
4.4.6 Reflective Journals

Reflective journals or diaries are used in qualitative research to explore individual’s thought processes and in the medical field, have been used to help health professionals become aware of areas of practice in need of change.\(^{70,71}\) The following paragraphs will explore the rationale for using reflective journals in this research, how the journal was developed, the instructions to the clinicians and the additional data that were collected through the journals.

4.4.6.1 Rationale for using Reflective Journals

Reflective journals were chosen as a qualitative research tool\(^{57}\) for collecting data for the following reasons. First, they allowed the clinicians flexibility, around their busy teaching and clinical duties, to reflect on their teaching practices and record their responses at a time convenient for them.\(^{72,73}\) Second, reflective journals, also known as diaries in the literature, allow participants to record their teaching experiences soon after the event helping to avoid recall bias.\(^{72-74}\) Third, although prompts were provided to guide the clinicians’ reflections, they were free to record their thoughts without direct influence from the researcher.\(^{72}\) Finally, the reflections could be recorded as either handwritten in the journal provided, typed in a Word document or audio-recorded.\(^{73}\) This again provided the clinicians with different avenues to collect their thoughts in a way they were comfortable with and did not rely on the researcher being present.\(^{74}\)

4.4.6.2 Development of the Reflective Journal

Once it was established that the reflective journal would be a useful research tool, the development of the reflective journal began and underwent several iterations. Initially, the question of whether to include question prompts was considered. In order to answer the research question of ‘How do Fijian Clinicians translate knowledge and skills learnt from a medical education workshop into teaching practice?’, we could have given the clinicians a blank journal with a question such as ‘Reflect on the recent medical education workshop you attended and how it has affected your recent teaching practice’. The responses would have been wide and varied and may not have answered the research question.\(^{71}\) Furthermore, the clinicians in Fiji have heavy workloads and have not had any formal training in reflective writing, so they may have found this an overwhelming task.\(^{71}\) Therefore, it was decided that a series of question prompts would be developed, along with guidance on how to engage in reflective writing, to help them focus their thoughts.\(^{71,72,75}\)
The guidance for reflective writing was developed using health professional and medical education literature on reflective practice and how to teach it.\textsuperscript{71,75-77} The ‘Tips for Reflective Writing’ were generic and aimed to encourage the clinicians to be honest and to reflect on ‘how’ and ‘why’ the teaching situation occurred. The tips were sent to the supervisors, workshop facilitators and one clinician from the workshop, who was ineligible to participate in the research, for feedback. Minor changes were made based on the recommendations and the final ‘tips’ were placed on the front page of the journal and included ‘Find a time and space when you can think without distraction’ and ‘Express yourself freely, be frank and honest. There are no right or wrong answers.’ The complete ‘Tips for Reflective Practice’ can be found in Appendix 6.

Guidance was also provided on the range of sessions that could be included to encourage the clinicians to think broadly about a range of teaching scenarios. They were encouraged to reflect on both planned and unplanned teaching as well as teaching they felt had gone well or needed improving. Furthermore, a copy of the learning objectives from the workshop and the workshop timetable (topics covered) were provided as an aide memoire for reflection, as the workshop had occurred six months prior to the start of data collection.

The final guidance was provided as a series of question prompts developed after reading the medical education literature around reflective journaling. These included the ‘SOAP’ technique\textsuperscript{77} which is used commonly in Fiji on ward rounds and looks at:

- **Subjective** – what is the situation and how did the person experience it?
- **Objective** – What are other people’s perspectives? What does the literature say?
- **Assessment** – What strengths and weaknesses have you discovered? What learning needs to be done?
- **Plan** – Develop a plan on how to improve.

Another model found in ‘Reflective practice, A guide for health professionals’\textsuperscript{76} the acronym **REFLECT** was used as a guide. **R** is for readiness, finding the time and space needed to reflect; **E** for exercising thought and to express freely; **F** for following a systematic process to interpret the experience; **L** to leave yourself open to doing things differently; **E** to look for insights from multiple sources; **C** to change; **T** for tenacity to continue reflecting.
The examples found were aimed at clinicians changing their practice but did not fit exactly with the research purposes. However, the recommendations were useful to guide the development of the questions prompts. The prompts encouraged clinicians to describe the teaching episode, how it felt, what went well or could be improved. The prompts also asked them to reflect on the medical education workshop and its influence, if they had used a new teaching technique (from the workshop) and if there was anything that influenced the teaching making it easier or harder. Again, these question prompts were reviewed by the supervisors, workshop facilitators and one clinician. Revisions were made after recommendations from the supervisors to include more detailed reflective prompts such as adding ‘How did you use it?’ ‘How did it go?’.

The question prompts were arranged as a bold key sentence followed by a description so that as the clinicians became more familiar with the reflection process, they would just need to refer to the bold key words (Appendix 7). For example:

1. **Describe the teaching session:**
   a. **Who** (Which students? How many?)
   b. **What** (planned/unplanned teaching session, theory or practical, was there assessment and/or feedback included)
   c. **Where** (Classroom, clinical setting, lab – what was the learning environment like…space, equipment?)
   d. **When** (Date of the teaching, what time? How long was the session?)

2. **The good, the bad and the surprising!** Can you give an example of what went well and what you would like to do differently next time to help students learn? Why? Did any part of the session surprise you? If so, which part and why?

3. **The medical education workshop:** Describe if there is an aspect of the workshop that you used in this teaching episode. How did you use it and how did it go? (you may like to look back at the workshop timetable in the front of your journal as a memory jogger)

Once the question prompts were finalised, the journal was constructed with the ‘Tips for Reflective Practice’ on the first page, then the workshop timetable and outcomes, followed by the guiding questions. The guiding questions were inserted into the journal after every ten pages and marked with a paper clip. All these measures were done to make the research tasks as straightforward as possible to ensure maximum compliance.
4.4.6.3 Participant Instructions

The reflective journals arrived in Fiji on the 26th April 2018 and the personal assistant for SMS was instructed to hand out the journals when he had sighted each clinician’s consent form. Instructions on how to use the journal were sent in an email to each clinician (Appendix 8) along with a copy of the consent form, the report about the workshop which had a summary of each session and photos to help jog their memories, plus the template for a lesson plan if they wanted to use it. Furthermore, the clinicians were given the option to handwrite, type or audio-record their reflections depending on their preference and time allowance. This flexibility was incorporated to increase the quality of data that would be collected. The clinicians were asked to scan and send their journal entries or send an e-copy of the typed reflection or the audio-files. In addition, the journals were A5 size and had a bright blue design so that they could be easily transported and found and the clinicians were informed that they could keep the journals for future reflection.

4.4.6.4 Additional Data Collected

In addition to the guidance and aide memoir, the journal also had a page to collect some basic information about the clinicians, including if the clinician was a PBL tutor or a specialist clinician, the number of years the clinician had been teaching and whether they had accessed other medical education training in the form of workshops, journal reading, peer evaluation and/or online education resources. The access to medical education resources was guided by Steinert et al.’s37 model of faculty development which incorporates both formal and informal learning, individually and as groups. This was collected to provide a background profile of each clinician, including their previous exposure to medical education.

4.4.6.5 Reflective Journal Summary

The reflective journal was developed as a qualitative research tool to capture the reflections of the clinicians on their teaching practice at a time convenient to them and without the researcher’s influence. Guiding questions were established to aid the clinicians in this process and the option of different methods of collection were offered. The responses from the journal were then followed up with a telephone or face-to-face interview.
4.4.7 Interviews

Interviews are a traditional method of data collection in qualitative case study research to capture participants thoughts and ideas.\textsuperscript{57,64-66} The next sections will describe the rationale for the interviews and the development of the questions used before describing how the interviews were conducted.

4.4.7.1 Rationale for Using Interviews

Research suggests the two modalities of reflective journals and interviews together are more effective as a research tool than using reflective journals alone.\textsuperscript{73} A disadvantage of using reflective journals alone is that the researcher has no control over how much or the depth the reflection is written. The clinician may be very superficial and brief in their entries and not reflect on the question prompts provided, due to a lack of time or willingness to write down their thoughts, resulting in limited data collection. Thus, the interview was important to clarify and delve deeper into the journal reflections to gain a better understanding of how the clinicians had used the knowledge and skills gained from the workshop in their teaching practice.

4.4.7.2 Development of the Interview Questions

The identified issues from the journals were used to guide the researcher to develop the interview questions\textsuperscript{78} to gain a deeper understanding of the clinicians thoughts about their teaching practice and the influence of the workshop. The first interview with each clinician was open-ended and guided by the journal entries previously sent. The second interview was guided by further insights gained by the student researcher as she analysed the initial data.\textsuperscript{64,66} Furthermore, on reading the literature\textsuperscript{62,63,79} around translation of knowledge into practice and affordances required to enable change, it became evident that a set of questions to address these aspects needed to be developed.

The insights for the student researcher were that first, the way we experience a situation is very personal and is shaped by our social, cultural, and previous knowledge experiences and beliefs. Second, to use new knowledge, we must first understand our experience, integrate that with the new knowledge and then change our behaviour. Third, this will be affected by whether we feel that it is worthwhile to change and whether it will be accepted and supported by the social, cultural and organisational expectations and finally, that affordances are things that can help, hinder or stop someone from being able to enact that
change. A set of key questions (Appendix 9) were devised with the above insights in mind and used as a guide for the second interviews such as:

1. **Which aspects of the workshop have you been able to use in your teaching practice?**
   *How have you used them?*

2. **Have you changed your teaching practice since the workshop? In what way?** **What influenced that decision to change?**

3. **What things would help you make that change?**

The interview questions were reviewed by the supervisors and one clinician to gain further insights and discuss any changes to be made before going to the field. Minor changes were made such as in question two above adding ‘In what way?’. The process of sharing the questions and discussing their aims helped the student researcher refine the questions to answer the research question.

### 4.4.7.3 Conducting the Interviews

The first interviews were mainly conducted by phone after the scanned reflective journals were received via email. It was often difficult to find a mutually convenient time for the researcher and clinician to conduct an interview due to the time difference between Perth and Fiji and the time constraints of the clinicians.

For those clinicians who had found the research task of completing the reflective journal difficult, one interview was conducted either before or after the videoed teaching episode, whilst the student researcher was in the field. One clinician who could not find time to do a journal entry was interviewed by phone and was asked the question prompts from the reflective journal as part of the interview. The researcher tried to accommodate the work commitments of the clinicians and be flexible in the collection of the data. Friendly reminders were sent every four weeks to encourage clinicians to send their journal entries and organise a time to have an interview. For the majority of clinicians, the second interviews were conducted face-to-face in Fiji a day or two after the video of teaching practice. The number of interviews, their length and when they were conducted are reported in the Results Chapter.

On reflection, the student researcher felt the face-to-face interviews were easier to conduct than the phone interviews as she was able to read the body language and felt more comfortable in leaving longer periods of silence, which allowed the clinicians to continue their train of thought. The interviews lasted between 16 minutes and one hour and gave
the student researcher the opportunity to delve deeper into the reflective journal entries (which had undergone some preliminary analysis) and to explore the clinician’s thoughts around the videoed teaching session.\textsuperscript{64} The interviews focused on the reasons the clinicians had changed their teaching practice and allowed space for the clinicians to explore and express their thoughts (perhaps for the first time), including concerns, in a safe environment. Due to the rapport that had been built over many years between the student researcher and the clinicians, the interviews represented an honest reflection and provided valuable insights into the medical education journeys of the clinicians.

4.4.7.4 Interview Summary

Interviews are a recognised research tool in qualitative case study design.\textsuperscript{64-66} The interviews conducted for this research followed on from the reflective diaries and recorded teaching sessions to get a deeper insight into each clinician’s medical education journey. The initial interviews were open-ended and insights from the initial interviews, journals and literature guided the interview questions for the second semi-structured interview.

4.4.8 Lesson Plans

The clinicians were requested to provide a lesson plan for the teaching session that would be videoed. The rationale for this was that it had been emphasized in the medical education workshop the importance of planning and preparation prior to a lesson. Furthermore, the clinicians had rated planning and lesson plans as one of the most useful aspects of the workshop in their evaluation of the workshop (reported in Chapter 2). For this research, the lesson plan provided some documented data that showed the intentions of the clinician for the teaching episode. The lesson was then observed by the researcher and therefore what was planned could be compared with what was observed. The lesson plan template used in the workshop was provided for the clinicians as a guide (Appendix 10) but they were encouraged to modify it to their own teaching needs and practice.
4.4.9 Videos of Teaching

Videos of teaching practice are recommended in qualitative research because they provide an opportunity to observe the practice of teaching and to retrospectively analyse the practice from many perspectives. The following discourse will examine the advantages and disadvantages of video research and why it was useful in this study before describing how the videos were conducted for this research.

4.4.9.1 Rationale for Videos

In qualitative research, videos are recommended for analysing complex interactions such as teaching practice that may not be captured by interviews or observation alone. The video can be replayed and different parts analysed such as the reactions of students. Replaying the video can also transport the researcher back to the event and not rely on recall and observation notes. However, the use of video has it’s disadvantages including not being able to get all the students and teacher in the frame, students being conscious of the camera and changing their behaviour, and it can be difficult to analyse. For this research, the video was employed to look at the aspects of changing teaching practice that clinicians had reported in the reflective diary and/or interview and whether the researcher observed these changes in practice or if no journal entry or interview had been completed the observed teaching was used as a basis for the interview to explore if they had made any changes in their teaching practice as a result of the workshop. Furthermore, the lesson plan (if provided) was used to confirm if the intended teaching occurred in practice. Previously, most literature has reported only on the self-perception of change and not confirmed this with observed teaching behaviour change.

4.4.9.2 Conducting the Videos of Teaching

Each clinician identified a lesson which could be recorded during the student researcher’s field trip. Before each lesson, the student researcher explained to the students that a video of the lesson would be recorded and that the video would be used to analyse teaching practice only. They were reassured that this would have no effect on their assessments and would only be used for the purpose of this research. They were given the option that if they did not want to be in the video then they could still participate in the lesson but that they would not appear in the frame being videoed. Only one student declined being in the video. Each student in the classroom was given a student participation information form and completed a consent form (Appendix 11).
The student researcher sat in on the lessons and recorded the lesson using the recording device on her mobile phone. She positioned herself in a corner of the classroom where she could see the teacher and students but was removed from their interactions. The advantage of using the phone was that the recording instrument was small and unobtrusive and the aim of being in the corner of the room was to be as discreet as possible and not interfere with the teaching and learning process. Where possible, the entire lesson was recorded and field notes were taken about general impressions at the time of observation and during times when a patient was being interviewed. A mix of classroom tutorials (n4), clinical skills teaching (n2), and clinical teaching (n3) were observed which provided a breadth of different teaching situations. After the videoed sessions, anecdotal feedback from the clinicians included how they were impressed that the students did not appear to be affected by the presence of an extra person or the video and were pleasantly surprised that the lessons had gone so well.

4.4.9.3 Video Summary
Videos are a useful tool in qualitative research around teaching practice as they allow the researcher to revisit the data multiple times. The video analysis in this research was conducted on a wide range of teaching scenarios and provided an extra dimension to the research findings on how the clinicians had been able to use theory in practice.

4.4.10 Challenges in Obtaining Data
Gathering the data from the clinicians was an arduous journey. Although by the end of April, after two calls to participate in the research, ten clinicians were willing to participate in the research, the subsequent gathering of data was challenging. The reflective journals arrived at the medical school on the 26th April and instructions on how to use them were sent via email. By the end of May only three clinicians had responded and sent reflective journal entries as requested, despite regular email reminders. The challenges faced in collecting the data during the research included misunderstandings of the research tasks by the clinicians, intermittent email access, and the distance and time difference between the researcher and the clinicians based in two countries.

As the initial journal reflections were received and phone interviews were conducted, it became apparent that some of the clinicians were finding the research tasks challenging to complete. This may have been attributed to a lack of time or the researcher instructions being unclear in relation to the expectations of the clinicians. It was decided that the student
researcher would return to Fiji, to conduct face-to-face interviews with all clinicians and observe and video their teaching practice. The student researcher planned to be in Fiji for ten days and organised times to interview and observe lessons prior to going for some clinicians (n4) and whilst in the field for others (n5). Once in Fiji, the student researcher was able to once again establish rapport with the clinicians who were still willing to participate in the research and apologised for not prioritising the research activities. The clinicians were very keen to talk and enthusiastic about the videoed teaching, and the time in the field was very fruitful.

Only one clinician had to withdraw from the research due to being the lone clinician for his speciality and unable to commit the time required. A second clinician was sick during the student researcher’s time in Fiji, but a subsequent lesson was identified to be videoed and a colleague was asked to help record that video. The timetable below (Table 4) demonstrates the times for interviews and recording of teaching for each clinician over the seven working days, as well as opportunities to discuss medical education with the Head of School and the Dean and conduct a medical education resource session.

At the follow-up interview or immediately after the teaching several clinicians asked for feedback on their teaching performance. This was provided but not included in the research data. The opportunity to do a resource session with the PBL tutors was utilised and the student researcher conducted an interactive session on lesson plans and reflective practice that the PBL tutors had requested.
Table 4: Timetable for field trip in Fiji.

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday 23</th>
<th>Tuesday 24</th>
<th>Wednesday 25</th>
<th>Thursday 26</th>
<th>Friday 27</th>
<th>Monday 30</th>
<th>Tuesday 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-9</td>
<td>Tutor feedback Session from JCU</td>
<td>Julie Record Diploma Tutorial</td>
<td>Jenny Emergency Record</td>
<td>Jenny Interview</td>
<td>Resource Session Lesson plans Reflective practice</td>
<td>Warren Interview</td>
<td></td>
</tr>
<tr>
<td>9-10</td>
<td>Jenny Interview</td>
<td>Alice Record PBL Tutorial</td>
<td></td>
<td></td>
<td>Vandana Interview</td>
<td>Meeting Head of School</td>
<td>Warren Record Clinic TIs</td>
</tr>
<tr>
<td>10-11</td>
<td>Jenny Interview</td>
<td>Alice Record PBL Tutorial</td>
<td></td>
<td></td>
<td>John Interview</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-12</td>
<td>Organise Interviews &amp; Videos</td>
<td>Alex Record PBL Tutorial</td>
<td>Clive Record PG Tutorial Masters</td>
<td>Alexander Interview</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-1</td>
<td>Clive Interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>Meeting with Dean</td>
<td>John Record Clinic</td>
<td></td>
<td>Julie Interview</td>
<td>Travel to Lautoka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td></td>
<td></td>
<td>Pretty Record Clinical Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td></td>
<td></td>
<td></td>
<td>Clive Interview</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

4.4.11 Confidentiality of the Research Participants

All data collected were de-identified with clinicians choosing their own pseudonyms. Any identifying data such as the clinician’s speciality or references to other clinicians were also changed to preserve the anonymity of the clinicians. In addition, the students were not named in any part of the research and the videos of teaching were only analysed by the student researcher and her supervisors. All data were stored in a password-protected file by the student researcher and the Institution.
4.4.12 Trustworthiness of the Research

Although the researcher was based away from the field during most of the research period, she was able to still be involved through emails and interviews. An advantage of being away was that the researcher was not the clinicians’ direct supervisor and therefore the clinicians could be honest and open in their reflections. Furthermore, on returning to Fiji to collect further data, the student researcher was not connected to the medical school and therefore the clinicians felt able to be honest in their reflections. The trust and rapport that was re-established on the field trip also allowed the clinicians to express their thoughts freely. In addition, member checking and intercoder checks were conducted which will be expanded upon in the data analysis section below.

4.4.13 Data Analysis

The ensuing paragraphs explore the rationale for the data analysis method chosen, how the data analysis was conducted, with a subsequent focus on how the videos were analysed. Finally, the process of member checking is illustrated to further demonstrate the trustworthiness of the findings.

4.4.13.1 Rationale for Analysis

Creswell\textsuperscript{20} and Stake\textsuperscript{66} suggest that when analysing case study research that the researcher also describes the background and context of the case to situate the case studies, as was done in Chapters 1 and 2. Furthermore, they advocate to first identify the themes within one case study and then across the case studies. For this research, although it was one main case study situated around the medical education workshop, each clinician represented a mini-case study. As advocated\textsuperscript{20,64,66}, the documents for each clinician were analysed separately to understand the individual’s medical education journey before looking for similarities and differences across all data. In addition, by triangulating the data from the journals and interviews, lesson plans and observation of practice, the analysis provides rich contextual data and ensures the credibility and dependability of the research findings.\textsuperscript{56,57}

Using a data analysis program was considered, however, the student researcher was not familiar with the program and the training dates were held whilst she was in the field. Considering the need to understand each individual clinician first, it was decided that manual coding would be carried out.\textsuperscript{64,82} On reflection, this was the right decision as the student researcher was able to become fully immersed in the clinician’s stories and had all the documents together. Also, the student researcher worked much better with paper based
rather than electronic forms of the data. As Creswell\textsuperscript{20} points out, the disadvantages of using a software program to analyse the data are that it requires the researcher to become familiar with how to use the program, and can distance the researcher from the data which can be cumbersome if new themes are identified and data needs to be transferred.

As Merriam\textsuperscript{64} and Stake\textsuperscript{66} recommend, the data analysis was iterative and continuous during collection. The first interviews were transcribed by the student researcher and analysed to inform the guiding questions for the subsequent interviews in the field. After each day in the field, the student researcher noted her thoughts and impressions which also informed the interviews during the final days in the field.

Once all data were collected, thematic analysis was carried out using Braun and Clarke’s\textsuperscript{82} six stages as a guide (Figure 5). In addition, both Merriam’s\textsuperscript{64} account of data analysis and Mays and Pope’s\textsuperscript{58} framework for qualitative data analysis were reviewed. All authors agree that first the researcher must be familiar with the data, and second, the coding process must be guided by the research question and the recurring views expressed by participants. However, the researcher does not have to rely on most participants reporting or doing the same thing if they feel an extract of data is important for answering the research question.

For example, in this study, only one clinician identified that there was a precarious balance between patient care, teaching and research in low-resource countries, but this was an invaluable insight to the difficulties clinicians face when trying to improve their teaching practice. Third, that by systematically searching the data, codes can be assigned and either put into the thematic framework or be used to search for themes. In the analysis of this research, codes were used to determine the themes. In addition, summaries of the main findings from each clinician were tabulated under each theme (Appendix 12).\textsuperscript{58} Finally, all authors agree that the final analysis and interpretation must ‘Tell the story’ in the written report and not just be descriptive.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Become familiar with the data</td>
</tr>
<tr>
<td>2.</td>
<td>Assign initial Codes</td>
</tr>
<tr>
<td>3.</td>
<td>Search for Themes</td>
</tr>
<tr>
<td>4.</td>
<td>Review Themes</td>
</tr>
<tr>
<td>5.</td>
<td>Define and Name</td>
</tr>
<tr>
<td>6.</td>
<td>Report</td>
</tr>
</tbody>
</table>

Figure 5: Braun and Clarke’s six stages in qualitative analysis
4.4.13.2 Conducting the Data Analysis

First, each clinician’s documents were gathered in one file\(^6^4\) including the transcribed interviews, reflective journal entries, the video of teaching, lesson plan (if provided), observation of teaching form and the researcher’s field notes. An inductive approach was used with the overarching question of ‘How do Fijian clinicians translate knowledge and skills learnt from a medical education workshop into teaching practice?’ as a guide to data analysis. The interviews were transcribed \textit{verbatim} by the student researcher and then re-read several times along with the other documents including the journal entries, lesson plans and videoed teaching, which encouraged the student researcher to become immersed in the data. The first clinician’s data were analysed, and their ‘story’ compiled.

Second, the data were revisited to do the initial coding for the first clinician. The story and initial coding were reviewed by the student researcher’s two supervisors to ensure they agreed with the interpretation and to add further insights. This is also known as intercoder reliability and adds to the trustworthiness of the findings.\(^5^6,5^7\)

Third, three more clinicians’ data were analysed, their stories compiled, and the coding completed. The codes were then transformed into themes. Initially, this was done using post-it notes and a large sheet of paper to fit similar codes into themes (Figure 6).\(^6^4,8^2\) These data were then transferred to a word table and sent to the supervisors for review. Discussion between the student researcher and her supervisors refined the themes such as making one main theme \textit{‘Inhibiting factors’} which included sub-themes of \textit{‘Time’}, \textit{‘Working conditions’}, \textit{‘Students’} and \textit{‘Clinicians’ resistant to change’}.

Fourth, the remaining clinicians were analysed and the codes from their data were added to the themes. The themes were then reviewed, leading to some being split. For example: \textit{‘Reported changing teaching practice’} and \textit{‘Observed teaching practice’} from \textit{‘Changing teaching practice’}, and others were merged to create themes such as \textit{‘future faculty development’} and \textit{‘current enablers’} being combined under the main theme of \textit{‘Enabling change’}. All data were reviewed to ensure they had been coded under the reviewed themes.

Fifth, the themes were defined and interpreted as the clinicians’ medical education journey and the student researcher processed the information to understand the essence of each theme before finally beginning to write the report.
Figure 6: The identified themes using post-it notes

Throughout the analysis stage and the subsequent reporting, the student researcher went through several phases. Initially, writing the clinician’s ‘stories’, which are mainly descriptive of the data collected, allowed the researcher to understand each individual clinician’s journey. Secondly, as the coding occurred, the researcher began to analyse and interpret the data to produce the themes. Finally, as the analysis progressed the researcher had further insights and was able to develop a model of how clinicians changed after the medical education workshop and the influences that affected that change. Merriam advocates for this process and recommends that qualitative case study reports should not just be descriptive.64

4.4.13.3 Analysing the Videos

Peer Observation of Teaching (POT) forms (Appendix 13) that encompassed the learning outcomes of the workshop were used by the student researcher to analyse the videos.83 The POT forms were modified from the assessment sheets for the workshop and enabled the
researcher to analyse the videos in a systematic manner. Other observations that were not encompassed by the form were added underneath. The observations of teaching practice were compared with the reflections in the journal and the interviews to find similarities and differences.

On reflection a drawback of this process was that only one lesson was observed compared with many that were covered by the journals and interviews. As the themes were identified the evidence of changing practice was mainly reported and only some of these changes were also observed. In future research, multiple videos of teaching over an extended period would provide more evidence for a sustainable change in practice.

4.4.13.4 Member Checking

As described earlier, each clinician’s documents were analysed separately as mini-case studies before the common themes across all the clinicians were identified. The ‘stories’ were sent to the clinicians for approval to ensure that the essence of the narratives had been captured correctly by the researcher. Each story was approved by the respective clinician, some of whom commented on the accuracy of the descriptions, as illustrated by the following quotes from their emails.

‘I enjoyed reading the interview transcripts...had a few laughs while reading them. Found no problems with the transcripts and summary.’ – Alice

‘Your assumptions are endorsed’ – Clive

‘I very much liked the ‘Warren’s story’ especially the quote’ – Warren

‘Well done for summarizing it well with all the rubbish I came out with!’ - Julie

In addition, the final themes from the data were sent to the clinicians to ensure the research had captured the main findings. All those who responded were happy with the analysis, for example Arthur wrote:

‘That’s great work Dr Sinead!’- Arthur

The student researcher wanted to ensure that her insights reflected what the clinicians’ thought to ensure the trustworthiness of the analysis.56,57
4.4.13.5 Summary of Data Analysis

The data analysis used Braun and Clarke’s guide to thematic analysis to identify the codes and themes across the data sources. The videos of teaching were analysed using a POT form to corroborate the changes reported in the journals and interviews. Member checking was also conducted to ensure the trustworthiness of the results.

4.4.14 Summary of Methods

In summary, the location of this study in Fiji, establishing and maintaining rapport with the clinicians and inviting clinicians who had participated in the 2017 medical education workshop was first described. Subsequently, a description of each of the data collection methods including the rationale for their use, their development and use in this study were expounded before moving onto the challenges in collecting data. Finally, the process of data analysis was explained, including member checking, triangulation and intercoder reliability to ensure the trustworthiness and credibility of the research findings. The results will now be presented.
5 Chapter 5: Results

5.1 Introduction

The data sources collected for this qualitative case study comprised of reflective journals, interviews, lesson plans and videos of teaching practice. These were then analysed as individual clinician stories, before coding and thematic analysis commenced. The Results Chapter will commence with the data collected, which will be presented in tabulated form, to illustrate how the clinicians responded to each of the data collection methods. Then, the background of clinicians will be explained including their years of teaching practice and other exposure to medical education training to give context to their experiences. Following this, a summary of each clinician’s findings will be told as their ‘Story’ which will enable the reader to identify with them individually. Finally, the common themes will be presented as a journey from how the workshop was perceived, to the clinicians evolving learning and teaching philosophy and changes in teaching and learning practice, both reported (in reflective diary/interview) and observed (through videotape). The journey is influenced by the clinicians’ perceptions around student feedback and by the inhibitors and enablers to clinicians implementing change, especially in relation to the future and how faculty medical education development could be enhanced in Fiji. In addition, the process of change will be illustrated through the clinicians’ narratives.

5.2 Who Did What? An Analysis of the Clinicians’ Response to Data Collection

The nine clinicians, four PBL tutors (marked throughout the Results Chapter with an *) and five clinical specialists, engaged in most aspects of the data collection. Six clinicians had an initial phone interview before the field trip and eight clinicians engaged in a face-to-face interview during the field trip. All clinicians agreed to having a lesson videoed and most completed at least one reflective journal entry. The PBL tutors* (n4) provided a lesson plan for their videoed teaching episode. Table 5 summarises the type and amount of data collected from the nine clinicians.
Table 5: Data collected from the nine clinicians

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Reflective journal Date</th>
<th>1st Interview Date and Length</th>
<th>Lesson plan for videoed teaching</th>
<th>Video of teaching Date and Length</th>
<th>2nd Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clive</td>
<td>23/7</td>
<td>1 hr</td>
<td>No</td>
<td>Masters Tutorial 25/7 2 hrs</td>
<td>25/7 40 min</td>
</tr>
<tr>
<td>Warren</td>
<td>30/7</td>
<td>31/7 35 min</td>
<td>No</td>
<td>Clinic - Trainee Interns 31/7 1 hr</td>
<td>No</td>
</tr>
<tr>
<td>Alice*</td>
<td>4/5, 11/5, 15/5, 18/5, 18/5</td>
<td>14/6 30 min</td>
<td>Yes</td>
<td>PBL Tutorial 24/7 2 hrs</td>
<td>26/7 16 min</td>
</tr>
<tr>
<td>Arthur</td>
<td>13/6, 15/6, 18/7, 10/8, 3/10</td>
<td>18/7 33 min</td>
<td>No</td>
<td>ABC Skills W/shop MB4/5 10/8 30 min</td>
<td>5/10 45 min</td>
</tr>
<tr>
<td>John</td>
<td>26/7</td>
<td>27/6 17 min</td>
<td>No</td>
<td>Clinic - Masters Student 25/7 30 min</td>
<td>27/7 32 min</td>
</tr>
<tr>
<td>Julie</td>
<td>25/7</td>
<td>27/7 18 min</td>
<td>No</td>
<td>PG Diploma Tutorial 25/7 3 hrs</td>
<td>No</td>
</tr>
<tr>
<td>Alex*</td>
<td>16/4, 20/4, 18/5, 22/8</td>
<td>25/6 50 min</td>
<td>Yes</td>
<td>PBL tutorial 24/7 2 hrs</td>
<td>27/7 20 min</td>
</tr>
<tr>
<td>Jenny*</td>
<td>26/7</td>
<td>13/7 30 min</td>
<td>Yes</td>
<td>Emergency with MB3 26/7 3 hrs</td>
<td>27/7 30 min</td>
</tr>
<tr>
<td>Pretty*</td>
<td>7/5, 9/5, 26/7, 8/8, 9/8, 10/8</td>
<td>17/7 40 min</td>
<td>Yes</td>
<td>Clinical Skills Session 26/7 1hr</td>
<td>27/7 25 min</td>
</tr>
</tbody>
</table>
The following section will delve a little more deeply into the reflections of the student researcher on the results collected by each of the data collection methods. The reflective journal entries were variable. Although guidelines had been given in the front of the journal on how to use the reflective journal (Appendices 6 and 7), this was only followed by a few clinicians. Four clinicians completed four to six entries. Those who had been able to set aside time to follow the guidelines produced deeply reflective entries. This was also evidenced through their interviews and confirmed in the videoed session.

Interestingly, the process of doing the reflective journals did not necessarily mean that change in teaching practice would occur. For example, one clinician who had filled all the required journal entries had still given superficial reflections that were mainly descriptive of the lessons she had done. She was still at the beginning of her reflective journey and although there was some evidence of change, it was less than others. In addition, those who had not done the diary entries were mixed in their ability to reflect on change. Two clinicians who had only done one journal entry were deeply reflective during their interview and were observed to have a very student-centred approach to their teaching, encompassing many elements of the medical education workshop. Two of the more senior clinicians either did not do a journal entry or just filled in one which was mainly descriptive of the students and the teaching that occurred. The reasons behind the differences will be explored and discussed in relation to current literature in the next Chapter.

Clinicians were also asked to provide a lesson plan for the videoed teaching session. Only the PBL tutors (n4) were able to provide one. The specialists did not for a variety of reasons, including teaching students in the clinic where they were not sure who would turn up in terms of patients or students or teaching something so familiar that they no longer needed a lesson plan. On one occasion, the specialist was teaching at the last minute due to sickness in another staff member. However, when interviewed most agreed that having a lesson plan was useful and would help them to recognise areas for improvement in their teaching practice.

The interviews with the clinicians provided insightful data as the rapport established between the student researcher and the clinicians enabled them to give honest reflections. Additionally, the student researcher approached the interviews without judgement of the clinicians realising that they were doing the best they could in their individual
circumstances, and she could relate to the struggles they were facing as she had previously been an academic staff member.

Finally, all the clinicians in this study agreed to have a teaching session videoed. Most of these were organised whilst the student researcher was in the field and were not rehearsed. The types of teaching videoed ranged from classroom-based tutorials, clinical skills session using simulation, to clinical teaching with real patients. Both undergraduate and postgraduate teaching were included in this study. An advantage to the teaching not being previously rehearsed allowed the researcher to get a real feel of how the clinicians usually run their teaching and not just have a snapshot of a mastered teaching showpiece. Overall, despite the difficulties with getting responses initially from the clinicians, the field trip allowed relationships to be renewed and facilitated the gathering of adequate data to conduct this research.

5.3 Background of the Clinicians

The nine Fijian clinicians who participated in the research came from a variety of educational and ethnic backgrounds and had diverse amounts of experience as medical teachers. All the clinicians were Fijian citizens at the time of this study but three had completed their initial medical training overseas. The more experienced clinicians had studied medicine through a didactic, teacher centred approach either locally or overseas, whereas the younger clinicians had studied using a PBL curriculum at the local medical school. Teaching experience ranged from mid-career medical practitioners who had been working for the medical school for as little as two years to experienced consultants who had been teaching for 40 years and were close to retirement. Additionally, information was gathered on their exposure to other medical education opportunities, including whether they had accessed medical education journals or online resources and if they had engaged in any peer learning. This information was gathered as Steinert and colleagues model of faculty development included these aspects and the researcher wanted to know if the same influences were utilised in the Fiji setting.

Most clinicians had only attended the teaching and learning workshop in 2017 and those that were in the school of medical sciences (SMS) in 2016 had attended the assessment workshop facilitated by Australian universities (James Cook and Flinders). Two clinicians had learnt some basic principles of medical education through train the trainer courses for Advanced Paediatric Life Support (APLS) and Primary Trauma Care (PTC), as well as
some support from an Australasian Specialist College (ANZCA). Furthermore, only one clinician had accessed online medical education resources or journal articles. However, there was some evidence that peer learning was being utilised in an ad hoc and rudimentary manner across the faculty, with four clinicians either seeking help from colleagues who had experience in medical education or by sharing their new medical education knowledge and skills with their peers. Table 6 summarises the background findings for the clinicians.

Table 6: Background findings for clinicians

<table>
<thead>
<tr>
<th>Pseudo name</th>
<th>Years of teaching experience</th>
<th>Other medical education training</th>
<th>Online resources in medical education</th>
<th>Read journals in medical education</th>
<th>Peer learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clive</td>
<td>30</td>
<td>Assessment w/shop</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Warren</td>
<td>40</td>
<td>Nil</td>
<td>No</td>
<td>No</td>
<td>Yes – helped peers to learn</td>
</tr>
<tr>
<td>Alice*</td>
<td>2½</td>
<td>Assessment w/shop</td>
<td>No</td>
<td>No</td>
<td>A little</td>
</tr>
<tr>
<td>Arthur</td>
<td>5</td>
<td>Assessment w/shop; APLS</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>John</td>
<td>6</td>
<td>Nil</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Julie</td>
<td>20</td>
<td>ANZCA PTC</td>
<td>No</td>
<td>No</td>
<td>A little</td>
</tr>
<tr>
<td>Alex*</td>
<td>4</td>
<td>Assessment w/shop</td>
<td>No</td>
<td>No</td>
<td>Yes, to ask for help</td>
</tr>
<tr>
<td>Jenny*</td>
<td>3</td>
<td>Nil</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Pretty*</td>
<td>2</td>
<td>Nil</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

5.4 Clinicians’ Stories

Each clinician’s story begins with a one-line statement that encompasses the clinician’s views and experiences around teaching and medical education with one or two of their quotes to substantiate the statement. This is followed by a summary of the written reflections, interviews, lesson plans and observation of teaching to illustrate each individual clinicians’ views and the learning and teaching journey they have taken since the workshop.
5.5 Clive – ‘The experienced, traditional clinical educator’

“No wonder I wanted to go into teaching, and I don’t think I have taken the wrong decision….no boasting but I have the knack…. I have a way of teaching in a different way so that the students get it.”

Clive reported that he has been teaching in academic institutions for many years but has had little formal medical education training apart from the workshops provided by his current workplace. He describes himself as an experienced, natural teacher who thinks on his feet to provide engaging learning experiences for his students. Clive said he found the workshop was not useful for his own teaching practice because many of the techniques described he is already implementing in his own unique way. The workshop gave names to his current teaching practices and he does not feel a need to change as he receives positive feedback from the students about his current teaching. However, despite believing teachers are born and not made, he does think the workshop could be useful to those new to medical education.

During the interviews and observation of teaching, Clive showed he has the students interests at heart by displaying a passion for teaching and ensuring that patients receive the best treatment available. He also demonstrated being a font of knowledge and experience in his specialist area, encouraging the students to learn through a variety of methods such as presenting, questions and diagrams. He said he believes in a hybrid model of medical education whereby knowledge must be acquired before students can move into the comprehension and analysis phase of learning. Clive also reported that he believes teachers should be competent and be able to provide this knowledge to the students and not just leave the students lost in the sea of information now available. Clive said he would be willing to explore medical education further, and possibly change his teaching practice, if he had more time and if the University valued teaching above research.
5.6 Warren – ‘We are never too old to learn’

“I mean I had no idea that there was this workshop going around teaching very senior clinicians ...we are very senior in our fields as a clinician ...but when we come to teaching, we might not be that good...knowledge is there but the knowledge has to come out somehow and there are many techniques of throwing the knowledge out to others....I have changed a lot since the workshop.”

Warren is a senior clinician who has recently joined the medical school, although he has taught students throughout his medical career. He reported that the workshop helped him learn many new ways to facilitate active, adult learning. Warren said he has become more student-centred in both his teaching style and through considering the learning environment. For example, he allows students some rest when they are on-call, so they are not too tired to learn. He reported that he has managed to apply many of the workshop techniques, such as having discussion groups and questioning, more hands-on learning, feedback after tests and ensuring students have opportunities to practise what they have learnt. Warren said he has changed from a more traditional way of teaching but is still struggling with the concept of students evaluating his teaching. He does acknowledge though that this is the next step in his medical education journey.

This was confirmed in Warren’s video where he demonstrated his active teaching and student-centred learning approach by asking questions and guiding students during the history and examination. He used Pendleton’s method for feedback and involved all the students in interpreting test results. Warren’s reflective journal entry was for a theoretical session and demonstrated he had thought about the students’ learning environment and active learning techniques. As a senior clinician he demonstrates insight into seeing that although he is an excellent clinician, he can still learn the principles of medical education to improve student learning. He said he has also taken this one step further by sharing his new-found knowledge with the Ministry of Health staff and by assisting other colleagues, who have completed the GCME, to disseminate the principles of medical education to their peripheral supervisors.
5.7 Alice* – ‘The struggling new tutor – wanting to improve’

‘The difficulty I have at the moment is giving effective feedback...because of the time ...so much to do....so in the future I would want to see myself as an effective tutor and at the same time someone who the students can approach to say whatever they want to say and in that way ...In other words, I need to update myself so that I can provide effective feedback to them.’

Alice has been a PBL tutor for a few years and said she initially struggled with the new learning approach because there was little support or teaching to prepare her for this new role. She described her tutorials as ‘office meetings’ with everyone seated in the same place with pens poised to take notes. Alice said she recognised there was a problem and thought that if she found the tutorial tedious, the students must also be bored. Through attending the workshop, she stated that she was able to identify some strategies to improve the tutorial process and assist the students to become more engaged as active learners. She also said she has become more willing to try new teaching techniques to help in student learning and has had many successes with the ones she has tried.

Alice found the reflective journal helpful to think about other areas of her teaching that could be improved. Through the journals, interviews and observation of teaching Alice showed that she has a good rapport with the students as they feel comfortable to laugh and ask clarifying questions. Although Alice’s lesson plan was brief and mainly guided the timing of the tutorial, she was observed to encourage active learning and has been able to recognise and reflect on areas for improvement in both the learning environment and in herself as a teacher. Alice reported some difficulties in her role, including a paucity of appropriate teaching spaces to conduct lessons and feedback, plus a lack of time for faculty development. Alice said she would like the University to support more medical education development in protected time so that she can become more student-centred and improve her feedback and assessment techniques.
5.8  Arthur - ‘I thought I was a good teacher until I attended the workshop and now, I want to train the registrars to teach’

‘To be honest, when I first joined the teaching faculty I thought ‘Wow’…I have been teaching medical students, and I think I am a good teacher….but when I came to those workshops it really opened my mind to all those things that I …the traps that we put ourselves into that immediately switch someone off from their learning…even though they are looking at you and they are nodding, but they have switched off inside because of what you said’

Arthur, an experienced specialist, has been involved in medical education for several years. He reported that the medical education workshop made sense to him and he has been able to integrate several lessons learnt into his daily teaching practice. The workshop prompted him to reflect on his teaching and develop his lessons to be more student-centred, using active learning including discussions, questioning, role-play and feedback. He admitted that when he first joined the medical school, he perceived himself as a good teacher, however, the workshop highlighted ways he could improve his teaching techniques to better facilitate student learning. Arthur has not received any formal feedback from the University, but he reported that anecdotal feedback from students has been positive. In the long term, he would like to be able to pass his new knowledge and skills in medical education onto the next generation of clinical educators.

Arthur demonstrated in his teaching the ability to orientate students, scaffold on their previous knowledge and break down the learning tasks into bite size pieces. He adapted Peyton’s four step method to teach, observed each student complete designated tasks and corrected their mistakes in real time, before asking them to combine the components into one skill. The students were observed to be engaged and actively participated in the lesson. During the subsequent interview, Arthur acknowledged that writing down his lesson plan and completing the reflective journal assisted him in changing his teaching practice to ensure that the learning outcomes, teaching, and assessment were all aligned. Arthur feels the main barrier to medical education progression is from senior influential clinicians who are not open to changing current and often outdated teaching practice. Arthur himself would like to develop more as a medical educator, but only if the courses were flexible, as time is a barrier to pursuing further studies; he also suggested that posting weekly ‘Tips in medical education’ and including medical education in ‘train the trainer’ courses could engage and help busy clinicians improve their teaching.
5.9  John – ‘Seeing things from a new perspective to improve student learning’

‘The workshop has definitely given us a new perspective on our teaching, especially to keep this in mind if we want to improve the quality of our training and teaching, so yes definitely we are a little bit more vigilant about these things, before we just took [teaching] for granted and now we think about this as we go along ... We just keep these things in mind.’

During the two interviews, John shared that the workshop had helped him consider new ways to engage students. John said he has changed from a more didactic method of teaching to engaging students through questioning, giving the students breaks, being more flexible and ensuring students are ready to learn. He reports that he also scaffolds content to ensure it is delivered at a correct level for the students on the novice to expert spectrum. However, John identified that there are multiple obstacles to improving medical education, for example, increased number of students, lack of teaching spaces, time, and adequately qualified medical teachers. John also acknowledged the different learning needs of students and how those from the Pacific region require more support. He would like more formal medical education training, especially in assessment, and he plans to have a workshop with his peers to develop quality, moderated examinations.

During his videoed clinical teaching session, John observed a student in a clinic setting. This was a noisy, busy clinic, however, John sat with the student afterwards and followed the principles of the one-minute preceptor, including questioning the student on her rationale for the management of the case, and the main teaching points were emphasised to ensure quality feedback. As a result, the student constructed her own learning issues and was able to ask questions on gaps in her knowledge and understanding. A supportive clinician-student relationship was observed, and John acted as a guide to the student’s learning.
5.10 Julie – ‘An experienced teacher, willing to change if necessary’

‘I guess I just adapt as I go along...I guess if anything needs changing then definitely, but for me ...what I want to see at the end will really determine how I take it ...if things are working well and they are getting there why do I need to change, and if not, then we need to do things differently ....that’s how I have been going all my life, I guess.’

Julie reported that the workshop reinforced what she already knew as she was fortunate to have had some education training earlier in her medical career. She noted that there are still some areas that could be improved such as providing feedback to her students, ensuring a planned and structured teaching session, and keeping track of students clinical practice progression. Julie said her main concern apart from ensuring the theoretical aspects of the curriculum are covered is that the students are clinically competent, especially for those who will be working independently in rural and remote areas. Julie does not feel supported by the University to achieve these outcomes, however, she is grateful to the provision of a fellow to assist with teaching from an Australasian clinical organisation. In her reflections, Julie identified the diversity of the students and their different learning needs and recognised how she could learn from different teaching approaches used by her colleagues.

During the observation of teaching, Julie encouraged the quieter students to participate and prompted discussions through questioning. She positioned herself at the head of the table to ensure she could be seen and heard by all students. Julie clearly assigned the students tasks, the atmosphere was relaxed, and the students were given a ‘coffee and cake’ break in the middle of the four-hour tutorial. Having a colleague to co–facilitate had the advantage of two different expert opinions, however, at times it was perceived by the student researcher that one facilitator was dominating the tutorial. The question guide for the tutorial ensured the main topics were covered and the local context considered.

In the interview following the tutorial, Julie admitted she had forgotten most of what was had covered in the workshop. However, by reflecting on the tutorial and re-looking at the topics from the workshop, she was able to identify some areas for improving her teaching, including making a lesson plan, to enrich student learning.
5.11 Alex* - ‘Enthusiastic, reflective and willing to learn from others’

‘I really enjoyed the workshops and I really think that they have made a difference in how I run my tutorials and I hope they have also made a difference to how my students enjoy the tutorials too because then they are definitely a lot more active, I think it makes them think and analyse more rather than just presenting and reading from books ...and these [reflective] journals have made me go back and reflect on my lesson...... It has really made me think what went wrong, what didn’t go so well...and you know if I do this next year’

Alex reported finding the workshops very useful in helping her improve her teaching in the tutorial classroom. She respected the facilitators who ran the workshop and the techniques presented offered solutions to problems she had already identified in her teaching practice. Alex says she has been able to use group discussion, feedback and the VARK principles in her tutorials. She reported that the Bloom’s taxonomy has also been useful in preparing examinations, the moderation process and preparing study guides. Alex also remarked that her new knowledge gave her the confidence to defend her assessments to the examination board. She acknowledges that there is still much to learn and takes advantage of and enjoys discussing learning and teaching issues with her faculty peers.

Alex’s journal entries were detailed and deeply reflective, revealing how she has been able to put the lessons learned into practice and the challenges she has faced whilst doing this. Similar to other clinicians Alex identified teaching space, increasing numbers of students and a lack of time, due to many responsibilities, restricted the improvements that could be made. In observing Alex’s tutorial, she was able to demonstrate many of the workshop principles including a facilitative classroom setup, questioning for prior knowledge, scaffolding, group discussion and feedback. There was much laughter and the students were engaged throughout the two-hour tutorial. Additionally, she used her detailed lesson plan to guide the tutorial and added questions or comments to it to clarify points with the students or remind herself of improvements to make next time. Alex’s enthusiasm for improving as a medical teacher has led her to reflect and seek ways of furthering her knowledge through learning from her peers and, she hopes, through formal education qualifications in the future.
Jenny was recently given a new educational program to implement with very little preparation time. Consequently, Jenny said that both she and the new intake of medical students have found the new course content overwhelming. Jenny used her initiative to research how other universities have tackled similar problems and used some online resources to assist her with assessment tasks. She reported that she found the workshop very useful and had changed her teaching practice significantly. The main aspects she felt she had utilised were around different learning styles, lesson plans, scaffolding, mind mapping and providing verbal feedback to students. Jenny recognises she had changed her teaching after the workshop and reported that the students especially liked receiving specific feedback. She felt that the teaching process had become more transparent but was wary of becoming too structured as she likes to encourage students to think ‘outside the box’.

Jenny’s teaching was a joy to observe. Following her lesson plan well, she orientated the students and patients in a caring way using simple language and observed the history taking and examination in both groups of students. She allowed the students time to prepare their presentation and facilitated group discussion around the problems that arose from each case. Jenny summarised the cases on the whiteboard and encouraged students to identify their own learning issues for further research. Jenny also provided positive and constructive feedback to students and had prepared an assignment for the students to complete to consolidate their learning. She demonstrated most of the key principles that had been discussed in the workshop.
5.13 Pretty* – ‘The reflective and motivated young tutor’

“But I think that workshop motivated every one of us towards this ...Before we didn’t even know about this ...so then we apply for our Masters of Medical Education which is applicable to what we are doing at the moment”

“The journal helps us in revising those things so that we apply it even more, otherwise what we learnt in just one workshop if we don’t apply it then we forget about it”

Pretty had recently joined the team as a tutor and was thrown in the deep end to help develop medical students’ clinical skills. She has embraced the steep learning curve and was developing her own teaching style. Pretty said there have been many challenges along the way, mainly due to a lack of time and staff, inadequate teaching spaces and the resistance of older faculty colleagues to embrace new teaching techniques. The workshop inspired Pretty to apply for a Masters of Medical Education as she found the knowledge and skills she acquired were relevant to her teaching practice and she would like to continue improving in this area. Pretty also stated the workshop had made her aware of her teaching style and she has moved from a primarily didactic technique to a more student-centred, active learning approach.

The reflective journals, interviews, lesson plan and observation of teaching all aligned to demonstrate that Pretty is a deeply reflective teacher who embraced the workshop techniques to facilitate her own and student learning. Observing her lesson, Pretty demonstrated a modified Peyton’s technique by asking questions during the demonstration to keep the 40 students engaged. Furthermore, she observed one of the small groups of students each practice the skill and provided feedback on their individual performance in a constructive manner. She was enthusiastic and had mastered the ability to reflect in and on practice to evolve her teaching methods. Pretty realised that without reflection and revision that much of the workshop would have been forgotten. Her honesty in revealing her weaknesses and her desire to work with her peers to improve her teaching methods is commendable.
5.14 Themes Identified

5.14.1 Introduction
Following analysis of the transcribed interviews, reflective journals, and observation of teaching for each clinician and summarising their ‘story’, six themes and eleven subthemes were identified to represent the journey that the clinicians have taken since the medical education workshop (Figure 7). The first theme represents the clinicians’ perception of the workshop and whether they found it useful or not, secondly, the workshop’s influence on their learning and teaching philosophy, resulting in the third theme of changing teaching practice. Changing practice has two subthemes including clinicians using active learning and student-centred approaches, and evidence of trying new teaching techniques. These are further subdivided into what was reported by the clinicians and what was observed by the researcher. The fourth theme addresses the clinician’s self-reported anecdotal and formal feedback received from students, before turning to the fifth and sixth themes of what inhibits and enables change respectively. Inhibitors to change revealed four subthemes: time, students, clinicians resisting change and the working conditions at the University. The enabling subthemes were what was currently helping and recommendations for the future. Future recommendations were subdivided into enablers the University could provide for developing faculty and communities of practice in medical education. Figure 7 below illustrates the themes and subthemes, shows their inter-relatedness, and how the workshops influenced each clinician’s journey in changing teaching practice. Following the diagram, each theme will be expanded upon and quotes from the clinicians’ interviews and journals, along with a few research observer notes, are incorporated to substantiate the findings.
Figure 7: Themes and subthemes representing the journey of clinicians since the medical education workshop.
5.14.2 Perception of the Workshop

The initial feedback after the workshop (Chapter 2) on the evaluation forms was positive, with 90% of clinicians stating that the workshop was quite useful or very useful. Eight months later, the interviews and reflective journals corroborated this initial feedback. The workshop was perceived to be useful by providing theoretical frameworks of learning, was evidence-based and provided some practical techniques for improving teaching and feedback. For example, Jenny stated:

‘I think that’s a good way of giving feedback to students and the microskills because….it wasn’t told to me that this is the theory of learning…so now that you have told us …oh ok and it’s evidence-based and students who are taught like this will remember it …so I like to teach them that way…yes’ – Jenny

Alex found the Bloom’s taxonomy theory helpful:

‘So, you know I think that the workshop was a big help because we were talking a lot about Bloom’s taxonomy in the workshop and how…you know how which levels are appropriate for which years and for us I guess it’s more like knowledge and comprehension those two levels’ – Alex

Furthermore, Alice and Pretty found the workshop helpful in providing solutions to current problems in their teaching, the workshop providing the time and space to reflect and gain insights into their own teaching practice and how they might improve.

‘I think the workshop made me a bit more aware because I went back and read through how we can do the horse shoe arrangement.’ – Alice

‘When I did it last year, I didn’t have the knowledge of this and the different learners…but maybe also as a student myself, I thought it was appropriate….So this year I think I emphasised on it a bit more.’ – Pretty

However, the perception of the workshop as being helpful was not shared by all the clinicians with two of the senior specialists reporting that the workshop only reinforced what they already did or that they perceived their own teaching techniques were working.

‘I am not aware of your principles and techniques of medical education …….and I think it [my teaching] goes well’ – Clive

‘Yes, it really reinforces what we have already been doing’ – Julie
Clinicians’ perceptions of the workshop appeared to be influenced by the number of years of teaching practice. For example, two of the three senior specialists had not found the workshop useful, however the third was very open to the new concepts. Conversely, all PBL tutors and specialists who had been teaching for less than six years embraced the new knowledge and skills learnt in the workshop. The openness to change seemed to be influenced by their learning and teaching philosophy and how they perceived themselves as teachers. The first step to changing practice appeared to be accepting the ideas presented in the workshop as valuable and useful. Once the new information was accepted then the clinicians were able to start thinking about how it could inform their own learning and teaching philosophy.

5.14.3 Evolving Learning and Teaching Philosophy.

The following theme will illustrate how the clinicians learning and teaching philosophy is developing through accepting the workshop techniques, gaining insight, and reflecting on their role as a teacher to facilitate learning, and then realising they could improve by being more student-centred and promoting active learning.

As the clinicians embraced the concepts from the workshop and recognised that the techniques presented could help them with their current teaching difficulties, they began into gain insight to their own teaching practices, including how it could evolve. This is true for John who shares how the workshop provided him with insight to improve.

‘Yes, that is one workshop that has given us insight ...It is not just the one thing that started us ...We were already working on it and that has also added on it and know we are more vigilant as we are going on ...So, it is never ending...a continuous process’ – John

These new insights assisted Warren to embrace different methods of teaching through reflection and subsequently change his attitude towards teaching and his students:

‘After undergoing this workshop, the medical education workshop, it has really changed certain parts of my teaching and looking at it from other angles and looking at the students ...from the students’ point of view and from my point of view ...it has changed.’ – Warren
As clinicians became more aware of learning from a student perspective and the different ways they could promote active learning, they were able to start thinking about making a change.

‘Because in that medical education when we learnt about that percentage of learning with that active learning, they retain it more ...whereas with passive learning they retain less...So, that was the main reason actually that made me change to this ...kind of to this type of teaching ...make it more active like.’ – Pretty

‘So, after the workshop I have been a little bit more conscious about not just about my responses but an orderly way of interacting with students so that they might benefit from that interaction’. – Arthur

The first step to changing teaching practice was witnessed through the reflective journals and interviews. Clinicians’ growing insights, recognising that there may be better ways to facilitate learning, and reflecting on their need to change resulted in an evolving learning and teaching philosophy. This in turn allowed the clinicians to think and act on changing their teaching practices to become more student-centred and promote active learning.

5.14.4 Changing Practice

Changing teaching practice was the main goal of the medical education workshop and the aim of this research was to find out how clinicians translate the lessons learnt into teaching practice. It was important to corroborate the data and explore whether the perceived changes in practice reported by the clinicians were also observed by the student researcher during the videoed session. Three clinicians who believed they had changed their teaching practice did not always demonstrate it during the observed lesson. The reasons for the differences between the reported and observed teaching techniques will be explored in the discussion section, but one of the differences is illustrated here in Alice’s interview following the recorded session and the observation of teaching notes from the student researcher.

:
‘I thought about the arrangement...I usually do not...I just come in and sit down...but the arrangement I sit with them and I feel I should be included in the group discussion ...or with them in the arrangement’ – Alice

From the student researcher’s observation, the notes stated:

‘The room was cluttered, and the ‘horseshoe’ arrangement did not quite work due to all the extra chairs’ – student researcher observation

Furthermore, the changing practice, both reported and observed, included techniques promoted by the workshop and new or adapted teaching techniques that the clinicians were trying. For example, most clinicians who teach clinical skills or simulation use Peyton’s four-step method which was presented in the workshop. However, many are also adapting this technique to suit their own teaching style or because of time constraints as illustrated by Arthur who wrote in his journal:

‘I remembered the four parts of skill teaching but ended up modifying it to my teaching style, I thought it was still well received’ – Arthur

The videotaped research observer’s comments corroborated Arthur’s journal:

‘Arthur used Peyton’s four-step approach in a modified way – demonstrated with words and then demonstrated again without speaking before asking students to try themselves. Changed order and left out the step where the student says what should be done.’ – student researcher observation

It is interesting to note that each clinician has had an individual learning journey and used different aspects of the workshop in their changing practice. For each clinician many of the reported aspects of changed practice could not be observed in only one videotaped session. The observed teaching session was just one snapshot in time, so the majority of data were drawn from the interviews and journals which spanned many weeks of insights and reflections across a variety of teaching episodes. Table 7 provides a summary of the aspects of changing teaching practice that were reported (through interview and reflective diary) and observed during the video-taped session.
<table>
<thead>
<tr>
<th>Theme Clinician</th>
<th>Active learning</th>
<th>Innovative</th>
<th>Active learning</th>
<th>Innovative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clive</td>
<td>Debate Scaffolding Questions Discussion</td>
<td>Google discussion Buddy system Combined sessions undergrad and postgrad Picture</td>
<td>Questions Student presentation (No wait time, some students confused)</td>
<td>Picture of body – which systems affected</td>
</tr>
<tr>
<td>Pretty</td>
<td>VARK Questions Summaries Peyton’s</td>
<td>Student becoming teacher in clinical skills session; Dancing for myotomes</td>
<td>Questions Demonstration Practice Modified Peyton’s Lesson plan followed</td>
<td>Not observed – implemented after recorded session</td>
</tr>
<tr>
<td>Alice</td>
<td>Buzz groups Questions PowerPoint by students</td>
<td>Share lesson plan with students Give trigger prior to tutorial</td>
<td>Buzz groups Questions Student presentation (Some students bored) Brief lesson plan</td>
<td>Trigger given before tutorial</td>
</tr>
<tr>
<td>Warren</td>
<td>Questions Discussions Practice Feedback</td>
<td>Peer education in medical education principles</td>
<td>Questions Practice Observes &amp; gives feedback Summaries</td>
<td>Not observed during recorded session</td>
</tr>
<tr>
<td>John</td>
<td>Questions Give breaks Intro, Body, Summary</td>
<td>Collaboration with NZ Med school</td>
<td>Used OMP as basis for teaching</td>
<td>Not observed during recorded session</td>
</tr>
<tr>
<td>Theme</td>
<td>Clinician</td>
<td>Active learning</td>
<td>Innovative</td>
<td>Active</td>
</tr>
<tr>
<td>-------</td>
<td>-----------</td>
<td>----------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Jenny</td>
<td>Intro and summary, Discuss while walking, Adapting to needs of students</td>
<td>Listen to discussions, Scaffolding, Feedback, Mind mapping, Uses examples</td>
<td>Intro and summary, Listened to discussions, Feedback, Followed lesson plan, Formative assessment</td>
<td>Intro and summary, Listened to discussions, Feedback, Followed lesson plan, Formative assessment</td>
</tr>
<tr>
<td>Alex</td>
<td>VARK Discussion, Lesson plans, Scaffolding Assessment, Feedback Reflection</td>
<td>Exploring new approaches to feedback, Give students the '12 +1 roles of a medical student.'</td>
<td>Review of prior knowledge, Discussion groups, Questions, Set up of classroom, Feedback, Detailed lesson plan - followed</td>
<td>Review of prior knowledge, Discussion groups, Questions, Set up of classroom, Feedback, Detailed lesson plan - followed</td>
</tr>
<tr>
<td>Arthur</td>
<td>Buzz groups, Discussion Questions Pre-reading, Peyton’s 4 step method, Scaffolding Teaching cycle Feedback</td>
<td>Using EMAC leadership game and adapting</td>
<td>Check prior knowledge, Questions Introduction, Peyton’s 4 step method Peer student feedback</td>
<td>Check prior knowledge, Questions Introduction, Peyton’s 4 step method Peer student feedback</td>
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<tr>
<td>Julie</td>
<td>Not mentioned</td>
<td>No</td>
<td>Discussions Questions</td>
<td>Discussions Questions</td>
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Table 7 illustrates that six of the nine clinicians were able to report and demonstrate several aspects of active, student-centred learning and four were able to report and demonstrate innovative teaching techniques. So, now that the practice of teaching is changing what is the perceived response from the students?

5.14.5 Clinicians’ Perception of Student Responses to their Teaching

The responses from the students were only reported from the clinicians’ perspective as collecting data from students was outside the scope of this Masters study. During the interviews, the clinicians were asked about whether they had received formal and informal feedback from the students about their teaching. Either clinicians reported they were not keen to seek feedback as they felt it would reflect poorly on them or they had not received formal feedback as the University processes did not support this. The more senior clinicians who had grown up with the culture of the ‘teacher being all knowing’ were the ones who found it most difficult to actively seek feedback from the students, although they acknowledged that this should be the next step on their learning journey.

‘Yeah...you know like old time teaching and we are the boss. The students are the students, but it is rapidly changing... but I am also trying to change myself, but maybe I am thinking that if I ask the students and they bluntly say you are here. You are wrong here ...then I might feel it...that’s the only reason I am holding back ...but I will do it.’ – Warren

‘Oh yes, I definitely should because you never know...Is my approach wrong or whatever? ...Do I put them off? ..I would like to know something like that ...that all adds to your learning’ – Julie

Arthur had not received any official feedback on his teaching despite ensuring his students filled in the relevant evaluation forms.

‘I have never had any one say anything different but I don’t know what they are thinking and umm...these forms that they fill...these course evaluation forms they also have teacher or supervisor evaluation integrated into it as well...I don’t get to see them...so I don’t know what the comments are ...I mean these have been collected for years and I haven’t had any feedback yet’ – Arthur
Anecdotal feedback to the clinicians was mixed with most clinicians reporting no change from before to after the workshop. Pretty noted that we may not be asking the right questions as often the students just say the teaching was ‘OK’.

‘I just ask generally during my sessions and they say that they are OK with both so ...maybe if I get proper written feedback on that ...that is how their reflections from last year compared to this year ...then maybe I would get a better answer...but, overall the feedback has been the same this year and last year so I don’t know if I have made any difference in terms of their learning.’
– Pretty

Some responses from the students have been encouraging such as asking for the same type of teaching to be repeated or requesting for the style of teaching to be introduced in the earlier years as reported by Arthur.

‘I have just generally asked them if they have found the simulation training useful especially in giving each other feedback and critiquing each other and they found it ...well, they told me they found it very useful in fact they wanted to have this type of teaching incorporated much earlier.’ – Arthur

Warren reported that he noticed attendance had improved since he became more student-centred by allowing the students some rest when on-call and John reported an improvement in attendance and assessment marks after changing his approach.

‘After making that change for them to go and rest after midnight and come back at 8 o’clock.....their attendance has really improved in coming on time for the handover and for the ECG session and other teaching sessions they are there on time and all of them are there.’ – Warren

‘It has helped a lot in my lecturing because even when you were there students were not coming to the lecture and now, I have changed so in my lecture now they are there ...I have minimum 60-70 they are there.’ – John

‘I have got my own way of teaching and it worked ...Even the whole of the second block passed...no-one failed...The good thing is that right from the beginning I said this is what you know ... and this is what you have to know, the skills and ...so when they were just onto it and they did it.’ – John
It is difficult to attribute the student responses to changes in teaching practice that have resulted from attending the workshop because as Arthur observed they have also noticed a change in the attitude of the students and a commitment to learning.

‘Oh... that’s difficult to tell... Some groups that I had last year, they were very demotivated... But, then this year generally there have been very good groups coming, very motivated... So, it’s difficult to say that it is because of the different teaching styles but I think whatever group it was...it would have been a better way of teaching them...Of course, there is no way I can measure that.’

– Arthur

This raises the question: What has sparked this change from one year to the next? It may be students in one particular year or the changes occurring in selection and the curriculum in the medical school or the evolving attitudes of the medical teachers towards the students and their learning. So, as the clinicians have changed their teaching practice and seen a positive effect on the students, we will now move to what have been some of the difficulties they have faced in making a change.

5.14.6 Factors Inhibiting Change

The four subthemes identified by most clinicians that were perceived as inhibiting change were a lack of time, increasing student needs, resistance to change from senior clinicians and the working conditions at the University.

5.14.6.1 Lack of Time

Lack of time was identified as an inhibiting factor for several aspects of changing teaching practice. First, a lack of time meant that clinicians were not able to read journals around medical education, consult with peers or reflect on the teaching episodes to evolve their philosophy and change practice. This was evidenced through the research process in this study as many clinicians said they did not have time to fill in the reflective journal.

‘First there is lack of time....If we had plenty of time then we might sail those uncharted waters [of medical education].’ – Clive

‘I haven’t had time to really read much other medical education stuff” – Alex

Second, the recently shortened semester meant that the same curriculum content had to be delivered in a shorter period and resulted in rushed classes with little time for trying new techniques and innovative teaching methods.
‘You see, the problem is that because of the reduced teaching time some of us, or most of us, are finding that we haven’t have adequate time to cover all that we are supposed to cover in tutorials’ – Alice

Third, the increased intake of students often meant that clinical skills sessions need to be split so that only half the amount of time was available for each group.

‘It really cuts into the demonstration times because instead of having a two-hour session it’s down to one...Sometimes, towards the end it can be a bit rushed ...Yeah, not enough time’ – Alex’

Finally, due to staff shortages, many clinicians are given multiple roles within the medical school and the hospital which clearly puts further pressure on their already busy schedules.

‘Do you remember when you were here we were spending 40% on our clinical? .....Now the Ministry of Health are saying you should supervise your own ...We only come for 40%...It doesn’t say that anymore ...I don’t know ...At the moment, we are just doing whatever needs to be doing.’ – Julie

‘I think the main barrier is time ...If I could get 36 hours in a day that would be great, but we are limited to 24...and then we already have so many roles...clinical roles, teaching roles. It’s just that there’s not that many people to share it with so you end up taking ...and having a lot on your plate.’ – Arthur

Clive also highlighted the challenges of being in a developing country and trying to maintain the balance between patient care, teaching and research which are often all done by the same person.

‘In resourced countries, it is OK...They have a team of ten ...three are working in clinical, three are on break or sabbatical and three are dedicated to research....But here, where you are everything... it comes up at the cost of the teaching, the cost of the care of the patient’ – Clive

A lack of time in many aspects of the teaching has led to clinicians feeling overwhelmed and finding it challenging to reflect, change and evolve their teaching practices. The lack of time is also related to the students because the clinicians are unable to dedicate as much teaching time to each student due to their increasing numbers.
5.14.6.2 Increasing student needs

Increasing student numbers in the medical school has resulted in less teaching time, which overlapped with the challenge of lack of time as illustrated by John:

‘You know the systems have become less time and now we are more faster in the delivery ... No time and more students so...and this was the first time we were doing ...our student numbers were more and time was less and so it was just testing ourselves.’ – John

John also identified the needs of regional students who require more support.

‘All the islanders are coming from different places...from far away place and we don’t have welcoming attitude... the regional students should be made comfortable...Give them some orientation lectures, English language and then the mentor should be looking after them and finding them ...and helping them when they start going off track’ – John

Generally, the increasing number of students and the needs of the regional students add increased pressures to the clinicians and impact on their time, and the quality of teaching and supervision they are able to provide.

5.14.6.3 Resistance to change from senior clinicians

Resistance of senior clinicians to a change of teaching practice was acknowledged by three clinicians as they tried to implement change without support. In addition, two senior clinicians in the research study felt there was no need to change at the moment.

For example, both Arthur and Pretty expressed disappointment with some senior colleagues.

‘It is a little bit sad especially amongst the senior, senior people in the academic group that some of them are not believing in some of these things and you know or at least having an open mind about how they can change their teaching styles for the better’. – Arthur

‘Sometimes some of them are senior to me and some of them are difficult to approach...So, I don’t know I find it hard to approach them to say I want this standard method’ - Pretty
Furthermore, Julie and Clive are senior clinicians who have been teaching for many years and perceive that they may not need to change.

‘I guess I just adapt as I go along...I guess if anything needs changing then definitely but for me ...what I want to see at the end will really determine how I take it ...if things are working well and they are getting there why do I need to change and if not then we need to do things differently’ – Julie

‘I am a bit of an old timer...so many of my thinkings and my statements are not in synch with many norms in society and with medical education...[In] our times the teacher in the medical college was the smartest guy’ - Clive

Change can be difficult to implement especially when some academic staff in the establishment are happy with the status quo and dismiss new and innovative teaching techniques. Strategies to ensure there is a win-win for all faculty will need to be devised to assist implementing long-term and sustainable change in teaching practice.

5.14.6.4 Working conditions

Almost all clinicians acknowledged that there is a clear lack of teaching spaces which hindered their daily work. Other challenges included the University processes and a shortage of staff.

Jenny expressed her frustration about the lack of teaching facilities at the health centre;

‘At the health centre, just that small cubicle, I didn’t have a whiteboard. I couldn’t get to talk to the students because we were rushing through patients...I am not there to try and get through the patients, I am there for the students.’ – Jenny

Alice echoed these sentiments when she was unable to find a private room to provide student feedback.

‘I only did one feedback so I thought that I would give some more feedbacks. Also he said one of the other students said the other tutor was sitting inside....coz I didn’t find any other room. So, he wanted it to be not in my office but somewhere else where it is just me and the student.’
Alex and Arthur wrote in their journals that there was not enough space.

‘Hindrances would be the space, though the Clinical Skills lab is relatively spacious, it can still feel a bit crowded at times.’ - Alex

‘Difficult to get a venue to teach nowadays because of competition for teaching venues.’ – Arthur

The other challenges concerning University processes and a shortage of staff are illustrated in the following quotes:

‘I wish they [the University] would let us do our teaching the way we think it should be done rather than dictating this is what you should do ...this point system is driving me crazy’ – Julie

‘We have bigger number of students and lesser number of staffs, so if one staff is absent the group gets redistributed to other tutors...so that is another hindrance.’ - Pretty

In summary, the inhibitors identified impact on each other. For example, due to a shortage of staff and increasing student numbers, there are difficulties in finding adequate teaching spaces and less time to teach and supervise. The University processes and the Ministry of Health require staff to have many roles which further impinges on the time available to teach. Due to these frustrations, it may be difficult for some clinicians to embrace the time and reflection it takes to make change.

5.14.7 Factors Enabling Change

Despite a number of inhibitors, all hope is not lost as the clinicians identified some enablers and were able to suggest strategies to improve teaching in the future within the University and for developing Fiji faculty in medical education.

5.14.7.1 Current Enablers

Current enablers included acknowledging the University in supporting the medical education workshops and noting assistance from the Dean and Head of School in providing resources to aid in the development of assessment. Collaboration with Australasian universities has also benefitted a few of the clinicians through fellows assisting in teaching and shared student resource sessions. In addition, peer networks and communities of practice are being established.
Warren was grateful that the University has allowed him to participate in the workshops even though he was close to retirement.

‘Firstly, I should thank the University, FNU, for taking the initiative and introducing so many workshops and training for their staff...Since joining FNU I have attended so many workshops, conferences, seminars and meetings than I have in the Ministry...So, the initiative is coming from FNU.’ – Warren

Arthur and Jenny both received assistance from the HOS and Dean, respectively, by being directed to helpful resources.

‘[The] HOS gave us this section of the UASR which has got a section on Bloom’s and I just have to keep that one close by...Every time I am writing up things, I have to retell myself to look at these when I am reviewing the exam questions and moderating them for the finals.’ – Arthur

‘I think the trainings put up by the Dean after ...he attended a workshop...He put up some readings on assessment on extended matching and how to do SAQs ...I think that has helped me too with setting the exam paper.’ – Jenny

John acknowledged the partnership with other universities and the benefit it has.

‘Also, we have started the global with a New Zealand university and this is wonderful...Our students like it and can perform much better with the University, so it is also bringing the standard up’ - John

In addition to the above support, there is some evidence of peer support and communities of practice beginning to develop as Alex shares:

‘I think it helps that everyone...Well, not everyone but most of us have attended the workshops and so we all have a bit of that background, so we can sometimes discuss and like so Susan’s doing [her masters in] medical education so she was the one I was discussing Pendleton’s and the SET GO [Feedback models].

- Alex

5.14.7.2 Future Enablers

Future enablers were classified into practical elements that would assist teaching such as more teaching spaces and a simulation lab plus enhancing faculty development in medical education.
5.14.7.2.1 University Infrastructure
Many clinicians had a wish list that they would like the University to provide including a simulation lab, more spacious teaching areas and a better working environment.

‘Well, at the moment, there is a new project that the Dean is thinking of which is the skills centre ...So, I would still love to do teaching....but I would love to be part of that skills centre.’ – Pretty

‘You don’t have the proper tutorial rooms and teaching halls and good selected spaces.’ - John

‘Number two is salaries...Salaries have come good now ... ...So, the work conditions have to be very satisfying and conducive for their own development....You see, philosophically, it is always self-first, so if your health is good both physical and mental, then your output is good....you yourself become a tool for other’s learning. Work conditions should be top class and then there should be opportunities to go out and improve in some areas.’ – Clive

These requests may not always be completely attainable in a low-resource environment, but the student researcher noticed a difference between the clinicians who were at the main campus where space and time were a premium and the one clinician who was at a peripheral centre. This clinician was happy with the work environment and readily shared his knowledge on medical education with his peers which was echoed by Clive who said he needs to be in a healthy work environment before he can help others.

5.14.7.2.2 Faculty Development
All but one clinician recommended future faculty development in medical education is needed in Fiji. Mostly, this was in the form of further learning and teaching workshops either in new areas such as assessment or as a refresher. For some of the clinicians, the medical education workshop inspired them to pursue a formal qualification in medical education. However, time was an issue and the clinicians suggested the need for flexible study and dedicated sessions within the working week to attend CME activities.

‘Well, I thought the workshop was really, really good ...umm...yeah I wouldn’t mind having a workshop ...I mean I’m sure there must be so many other things on medical education that we still don’t know so maybe those of us who have
done some of it …the basic things from this workshop and there could be some more advanced thing,’ – Alex

‘Now I am planning to do my Masters of Medical Education.’ – Pretty

‘Maybe as a CME on a Friday… how medical education is changing.’ – Arthur

‘What I would like to do is to enrol in some course that is flexible in the hours and I can do a lot of the work online in my own time.’ – Arthur

‘I would really want a medical education course …as of now it’s difficult to do it online….cos we …if you do it online you have to find your own time…to do all that so if we have it on site maybe that would be better because we would have a marked out time to attend class …so that’s what we would want to do.’

- Alice

Warren and Arthur also felt that all clinicians should learn the basic principles of medical education, as illustrated by Arthur’s quote below, and three of the four PBL tutors were keen to develop peer networks to learn more as expressed by Jenny.

‘Yeah…you know what I have been really thinking about is bringing up the juniors, I mean my registrars and getting them involved in the teaching role…I have to think about continuity …and um sustainability…In that way, they will also learn how to improve their medical education skills because I don’t think….the lessons we have learnt [about medical education] shouldn’t just be staying with us’ – Arthur

‘I would definitely welcome that [Peer learning] please.’ – Jenny

The enablers for change identified highlight the areas that need to be considered, when developing medical education faculty development initiatives to facilitate clinicians changing their teaching practice. These include enhancing partnerships, communities of practice, better working conditions and supported, flexible training,
5.14.8 Summary of Themes
The themes that were identified from the data analysis showed the clinicians’ journeys since the medical education workshop and the factors that influenced these journeys. Initially, their perception of the usefulness of the workshop influenced their evolving learning and teaching philosophy and whether a change in teaching practice occurred. The factors that influenced this change in practice were the responses of the students to the change and the inhibiting and enabling factors. Clinicians also identified future enabling factors that could assist their continuing medical education journey.

5.15 Putting it all Together
The main research question was ‘How do Fijian Clinicians translate knowledge and skills from a medical education workshop into teaching practice?’ With this in mind, after the thematic analysis the student researcher synthesised the themes and relooked at the data for the clinicians’ process of change. The following quotes illustrate a couple of the different paths to change.

‘I think first of all it made sense and then I tried it out, so I trialled it and what I found was useful I used, and I am still trying and integrating things and that will continue’ – Arthur

‘In this workshop, it was kind of emphasised that ...I think passive learning they only remember 10% or something...so that was like...Ahh! So as our purpose is for students to retain as much as possible, I started thinking ...active learning’ – Pretty

Other clinicians’ process of change was more scattered throughout their transcripts and journals, but similar paths could be traced. A pathway was identified for each clinician and recorded. For example, the pathway for Arthur was that first the education workshop made sense, second, he tried the technique in his teaching, third, he reflected and found that it worked which has finally led him to be more confident and try more new methods in his teaching practice. These insights led to the development of a model for change that will be described in the following discussion Chapter.
5.16 Summary

The Results Chapter has taken us on a voyage of discovery. Initially, a description of the research activities completed and the background of the clinicians in relation to their medical education experience set the scene and revealed that each clinician had engaged with the research tasks of interviews and observation of teaching, but there was a mixed response to providing lesson plans and reflective journal entries. The background of the clinicians ranged from new tutors to very senior specialist clinicians with very few having engaged in other medical education activities. Then, each clinician’s story was described to assist in the understanding of them individually, before the themes of their journeys from the workshop to a change in teaching practice and the factors influencing this were explained. Each clinician is unique as their stories reveal and ranged from those who were confident in their teaching abilities to those who were unsure or overwhelmed. The understandings from these stories led to the development of the themes including the perception of the usefulness of the workshop leading to an evolving learning and teaching philosophy and changing teaching practice. These were influenced by the themes of the perceptions of the responses from the students, inhibitors and enablers for change. Finally, the insights from all the data have led the student researcher to understand the process of change and develop a model.
6 Chapter 6: Discussion

6.1 Introduction

In the previous Chapter the individual stories of the clinicians’ journeys since the medical education workshop were told, along with the common themes and subthemes identified before unveiling a process of change. This final Chapter will first present a model for change that has been developed following the results from this research, before going onto consider how it fits within the current theories of educational change and the medical education literature. Second, the components affecting the process of change will be considered separately including the culture of the organisation, the teaching and learning experiences and the perception of the usefulness of the workshop by the clinicians and the need to change or not. Additionally, the inhibiting and enabling factors to change will be discussed before exploring the clinicians changing learning and teaching philosophy, changed practice and their perception of student responses. All the above components will be discussed in relation to the current medical education literature to provide recommendations for future faculty development and research. Third, these will be drawn together to expose the limitations of this research, provide a summary of the recommendations for faculty development in low-resource countries and suggest directions for future research. Finally, the reflections of the student researcher will be presented along with a concluding statement.

6.2 Model of Change

To represent the themes identified in this research, a model of change was developed to explain how the themes interrelate and to illustrate the complexity of the process for how clinicians in Fiji are changing their teaching practice (Figure 8). The model of change centres around the clinicians’ perceptions of themselves as educators and begins to explore and understand ‘How clinicians translate knowledge and skills learnt from a workshop to their teaching practice’, including the enablers and inhibitors. The answer to the research question is complex and has multiple layers and interrelations.

The clinicians’ perception of themselves as a ‘good teacher’ or one which they feel could be improved, impacts their openness to change. There is a continuum rather than a
dichotomy of openness to change which is influenced by three main factors: First, their personal experiences as a teacher and as a medical student, second, the enablers and conditions that make change possible and third, by the structural inhibitors to change. These learning and teaching experiences, enablers and inhibitors are influenced by the background culture of the medical education faculty in Fiji.

The next part of the model represents what the clinicians bring to the medical education workshop and their openness to accept or reject the new information presented, which for many lies in their perceptions of themselves as teachers and the need (or not) to change. For some, it offered new insights. For others, it confirmed what they think they are already doing, or it was rejected as not being useful in their current teaching role. For those clinicians who attended the workshop and decided it was useful, there are several reasons that affect a subsequent change in future teaching practice. First, the clinician may have been experiencing a problem with their teaching and the workshop provided a solution to that problem. Second, the workshop allowed the clinicians time to reflect and thus gain insight into their own teaching practice and how it could change to benefit student learning. Identifying problems, reflecting, and gaining insight to possible solutions are intertwined and different clinicians take various pathways through a maze of different routes to end up at the centre of changed practice. Some may first learn about a new technique which gives them insight to a problem they may not have previously recognised. Others have time to reflect on their own role as a teacher and whilst they may not have identified any problems, they become motivated to improve their teaching practice through learning about new ways of engaging students.

Once insight has surfaced and a new technique practised in the workshop, the clinician can try and implement it in practice. This again is influenced by their previous teaching and learning experiences, inhibiting and enabling factors which affect the intention to change becoming a reality. After implementing the clinician can evaluate whether it went well or not, reflect, and adapt the changed educational approach and continue the cycle again. All components are affected by the sea of experience, inhibitors, and enablers, against the background of the culture of the medical school, which can hinder or help the process of changing their teaching practice. This is underpinned by the clinicians’ changing learning and teaching philosophy which evolves as they journey through the model of change (represented by the arrow on the left-hand side of the model).
Figure 8: Model of change for transfer of workshop knowledge and skills to the workplace
6.2.1 The Model of Change and Educational Change Theory

How does this model fit with the current literature about educational change and translation of knowledge into practice? Fullan\textsuperscript{61}, Eraut\textsuperscript{62} and Billett\textsuperscript{63} have proposed theories for educational change based on research conducted in secondary schools or University. Their theories offer different perspectives on how change occurs from learning in an educational setting into transformation of teaching practice. The model of change illustrating the results from this research will be explored from these three perspectives to understand how it aligns with the educational change literature.

The model of change illustrates each clinician’s personal learning journey in applying the knowledge and skills learnt in the medical education workshop to changing their teaching practice, as well as the wider influences of the inhibitors, enablers and experience, and the social context. These findings are echoed by Fullan\textsuperscript{61} who states in his book ‘The new meaning of educational change’ that

\begin{quote}
Significant educational change consists of changes in beliefs, teaching style and materials which comes about only through a process of personal development in a social context.\textsuperscript{p.124}
\end{quote}

Fullan\textsuperscript{61} emphasizes the importance of the social context in the process of educational change and proposes that change cannot occur without social interaction. Eraut\textsuperscript{62} also considers an individual’s personal knowledge and cultural knowledge that impinge on transfer of knowledge between the classroom and the workplace. Personal knowledge, he claims, includes people’s knowledge, skills and memories from previous learning and teaching experiences which correlate with the ‘Experience’ bubble in the model. He also acknowledges a person’s self-knowledge, attitudes and emotions which influence the transfer process which relates to the ‘perception of self as teacher’. Furthermore, Eraut\textsuperscript{62} believes that the individual is key to understanding the transfer of knowledge to practice process although he acknowledges that this occurs in a wider social context. Billett\textsuperscript{63} takes the middle ground and proposes a socio-personal concept of transfer. Billett proposes that individuals construct knowledge according to their own knowledge, beliefs and values within a social context and culture that has an accepted professional practice. The results from this research show that clinicians take their individual learning journeys from learning in the workshop to changing teaching practice, but this is influenced by their previous learning and teaching experiences, the inhibitors and enablers to practice. The findings in
this study that the individual takes their own personal learning journey that is influenced by a social context are substantiated by the three educational theories. The only difference between the theories is how much the change is influenced by the individual, the social context or both.

How do these three theories explain how educational change occurs after a workshop and do they fit with the above model? Fullan\textsuperscript{61} proposes that although skills training workshops are necessary to impart new knowledge and skills to the learner, change will only occur when learners talk to each other about what they have learnt and how they have used it in practice, either one to one or as a group. He believes that change will not occur if it is left to the individual to change alone. In the model developed, the change process appears to mainly focus on the individual’s journey in their ability to transfer the knowledge and skills to the workplace, however, one of the enablers identified by the clinicians in this study was the importance of peer support and sharing ideas, also known as a community of practice, which is fundamentally social and has been defined by Barab\textsuperscript{86} as a ‘social network of individuals who share and develop knowledge, values and experiences around a common practice’. Eraut\textsuperscript{62} also acknowledges the need for workshops that provide the knowledge and skills necessary to make change, however, he focuses on the individual and proposes that the main barrier is a lack of time for individuals to reflect and implement change which is consistent with this study as time was also identified by all clinicians in hindering them make the change. Therefore, Eraut suggests there is a big gap between what should ideally be practised and what is practiced due to the pressures of time and resources. This holds true for clinicians in this study who are teaching in a low-resource setting.

Billett’s\textsuperscript{63} socio-personal model of change combines the personal and the social, suggesting that when people perceive something new, such as the medical education workshop, they need to reconcile it with what they already know, before deciding whether to change and implement a new behaviour. This correlates with the components of reflection, insights, exposure to new teaching techniques and discovering solutions to current problems that occurs during and after the workshop. However, Billett also acknowledges that this process occurs in a social context where the culture of the workplace and expectations from others will influence the implementation of a new behaviour. In this study, this relates to the inhibitors and enablers of change within the proposed model. Billett concludes that first new knowledge must be acquired and then processed, second, that people will construct their new knowledge according to their own beliefs and values which are influenced by the
social context they are in, and, finally, there is no guarantee of change. This last conclusion may lead us to believe that we should give up entirely, however, from this study we can see the beginnings of movement in the change continuum for most clinicians.

From this study, the results and the model would suggest that Billett’s model would fit best in this context. However, the insights from Fullan and Eraut’s work also relate to the above model. Furthermore, when considering these models of change it must be remembered that most of Fullan’s and Billet’s work has centred around secondary schools, although Eraut focuses more on University students and the subsequent application to workplace practice. This leads to the question: Do these models apply to experienced clinicians or do we need to formulate a new model for medical professionals translating new medical education knowledge and skills into teaching practice? The three theories proposed by Fullan, Eraut and Billet add valuable insights to the results from this study and fit with the proposed model of change. Let’s now turn to the medical education literature to gain more understanding about the process of change for faculty in the medical education arena.

### 6.2.2 Model of Change and Medical Education Literature

The model of change developed from this study encompassed many different components including the clinicians background, previous teaching and learning experiences, enablers, and inhibitors to change set against the cultural context of the medical school in Fiji. In many ways, the medical education workshop was an educational intervention and/or catalyst that provided a space for change by encouraging the process of reflection, insights, identifying problems and finding solutions. In searching the medical education literature around faculty development, each of these aspects were recognised in various ways, however, a complete model for change to teaching practice was not found. The following discourse will consider the general findings from the medical education literature before turning to the components of the results individually.

Steinert and colleagues model of faculty development considers the activities that are needed to develop faculty in medical education and divides these into formal and informal learning conducted in groups or individually. Mentorship is at the centre of these activities (Figure 9). Whilst this framework outlines the activities to help faculty development it does
not address ‘How’ people change. However, Steinert et al\textsuperscript{31} do acknowledge that individuals learn differently and therefore all components in the faculty development framework should be encouraged. They also recognise the impact the organisation has on learning and recommend that the organisation must support and promote faculty development. For this study, Steinert et al’s\textsuperscript{37} model informed the background questions asked to the clinicians about previous medical education professional development activities. Very few had engaged in any other medical education development apart from the workshop prior to the research. During the research process, many of the clinicians began to reflect on their teaching practice and identify that peer learning, communities of practice and more formal learning would assist them on their medical educator journey. The central theme of mentorship in Steinert and colleagues’ model is particularly difficult to achieve in the Fiji setting as there are only a few clinicians who have completed the GCME and at present their main roles are not in medical education faculty development. In the future, there are plans to develop the first medical education unit at FNU and currently there are four clinicians completing their Master of Health Professions Medical Education who will be able to establish the unit and mentor others on their medical education journey. Steinert et al’s\textsuperscript{37} faculty development framework model will provide a useful guide when designing medical education initiatives in Fiji.

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Figure 9: Steinert et al’s: Framework for faculty development.\textsuperscript{37}
Another model applicable to this study was developed by Higgs and McAllister\textsuperscript{50} and looked at the concept of ‘Being a clinical educator’. Their model had six layers with the sense of self being in the middle, followed by the relationship with others. These two layers led to the sense of being a clinical educator and then to a sense of agency. The outer two layers consisted of self-congruence or being authentic and then finally to the experience of growth and change through self-reflection, discussion and training. Higgs and McAllister\textsuperscript{87} used this framework to make recommendations for educating clinical educators such as using reflective journals and mentoring to increase self-awareness, using workshops to discuss the roles of the clinical teacher and sharing different experiences, before presenting to peers, conducting research and publishing to continue growing as clinical educators. Many of these areas of ‘Being a clinical educator’ are encompassed in the model of change developed from this study, such as the importance of self-perception as a teacher, the need for reflection and sharing with others, alongside educational support in the form of workshops. The drawback of Higgs and McAllister’s model\textsuperscript{50} is that it does not take into account the wider cultural context and expectations of the organisation and cannot be generalised to other groups as it was a qualitative study based only on five speech pathologists. However, their discoveries resonate with many aspects of the model developed from this study and add credibility to the results.

Interestingly, the current study highlights the impact of the organisational context as both an enabler and an inhibitor to change. Bligh\textsuperscript{32} in his editorial about faculty development recognised the importance of the educational culture in the workplace and the effect it has on faculty development initiatives promoting medical education improvements. Furthermore, Morris\textsuperscript{88} acknowledged in her observational research, at a London teaching University, on doctors as teachers that social norms and cultures of both the medical school and the teaching hospital have a significant impact on the educational role of clinicians. This is similar to the results from this study which identified that the expectations from the hospital or healthcare centre impact on the ability of clinicians to implement the knowledge and skills that had been learnt in the workshop.

The results from this study and the components from the proposed model of change are supported by the current educational literature, through recent qualitative research, editorial pieces, and advice from experts in the field. However, there is little empirical data in the current medical educational literature to support or refute the overall model of change proposed from this study.
The next section will review the themes identified in the results which informed the individual components of the model in relation to the literature and suggest how this can influence or enhance future faculty development in the Pacific. As the student researcher gained insights from the results and developed the model of change, she was struck by the image of ‘The Parable of the Sower’ and its parallels with the findings. Thus, the discussion of the themes will be presented as a metaphor of ‘The Parable of the Sower’ to illustrate the clinician as the seed that can grow into a plant (medical teacher) and produce fruit (improved teaching) if planted in fertile ground (enablers to change) but who will find it difficult to grow if planted on the rocky ground, with the weeds or is eaten by the birds (barriers to change). The use of metaphors in qualitative research has been advocated to help structure and illuminate a concept by applying a familiar phenomenon, the metaphor, which helps the reader to understand the ideas presented.89

### 6.3 Organisational Culture – Preparing the Ground

Although organisational culture was not explicitly explored in this study, the clinicians did refer to the expectations of the University, hospital or health centre where they worked. Interestingly, the results also highlighted the importance of different working environments. Senior clinicians at the main teaching hospital felt less able to change than the one senior clinician at the peripheral teaching hospital. Whereby the senior clinicians at the main hospital reported feeling undervalued and battling with the University systems.

Unfortunately, only one clinician from the peripheral hospital attended the workshop and so the results are not generalizable, however, he did identify that the working environment was supportive for his development in medical education and there was a positive atmosphere observed.

The importance of context is highlighted in Sorinola et al.’s49 recent qualitative research interviewing doctors and their supervisors who had completed a faculty development program in the UK. Sorinola and colleagues provide a new perspective using a realist evaluation theory of faculty development. This realist approach considers the context and understands that people construct their knowledge as they perceive and experience the world. Furthermore, this realist evaluation approach attempts to discover the ‘How’ rather than just the ‘If’ change has occurred. This approach taken by Sorinola and colleagues in
their research about the long-term impacts of medical education faculty development deliberates around three different aspects, namely the context, the mechanism and the outcome. First, the context includes the individual and their relationships, the culture of the organisation, and the inhibitors and enablers that lead to change. Second, the mechanism is the type of project or educational intervention as well as the characteristics of the individual that affect change and third, the outcomes look at both the intended and unintended outcomes from the intervention. Sorinola et al identify four distinct themes including engagement, motivation, positive perception and professionalisation around medical education training and offers useful suggestions for further faculty development such as ensuring that it is interactive and promotes reflection, is relevant to the needs of the participants, has a supportive institution where clinicians as teachers feel valued and their careers can progress. This research was conducted in the UK in medical schools that have established faculty development units and relied solely on self-reported interview data, although as the authors argue, the interviews were based around documentation from student feedback and observation of teaching conducted by the faculty development supervisors. These recommendations are something to aspire to in the Pacific context as we begin the journey of formalising medical education training. Further research in the Pacific context looking at the outcomes of faculty development initiatives will need to be developed and the realist evaluation framework could provide additional insights on how the outcomes can be achieved, especially with regard to how the context of the learning and working environment impacts on the desired outcomes.

In addition to Sorinola et al's research, the medical education literature supports the notion that the background norms and expectations within each medical speciality, the medical school and the clinical environment are all important factors to consider in the designing of medical education faculty development programs\textsuperscript{31,32,88} and the right change pathway needs to be identified for different contexts.\textsuperscript{90} In future, when faculty development strategies are considered, the ground needs to be prepared by enlisting the support of the medical school, hospital and disciplines and ensuring their needs are addressed to help ensure the programs are both successful and sustainable.
6.4 Experience and Perception as a Teacher – The Seed; Is it Ready to Grow?

In this study, clinicians had between two and 40 years of teaching experience. However, all the new teachers had previously graduated from medical school several years earlier and therefore had a vast experience in practicing medicine and being taught by senior medical staff. The findings from this study suggested that both the clinician’s experience as a student and then as a medical teacher influenced their openness to change and whether the workshop was perceived as either useful or not useful. In a qualitative study by Ash\textsuperscript{90} interviewing 18 surgeons in Australia about how they perceived their role as medical teachers, she suggests that first clinical teachers need to understand themselves before they can begin to change their teaching practices. This was similar to qualitative research conducted by Pololi\textsuperscript{91} exploring self-awareness as part of a longitudinal faculty development program in America, using peer interviews. She found that the clinicians valued the opportunity to self-reflect and learn about themselves as teachers, and they reported that they were more self-aware, had increased enthusiasm for teaching and had learnt skills to help them in their teaching practice. Steinert and colleagues\textsuperscript{31} also state that all teachers are different due to their varying experiences and this will affect their openness to change and Morris\textsuperscript{88} further advocates from her activity theory research in the UK that each clinician’s world view must be considered and an attempt to align initial medical education strategies with these views, before challenging clinicians’ perceptions with alternate medical education principles in faculty development initiatives.

From this study and the literature, a clear recommendation is to first meet with academic faculty and explore their views and needs in medical education before designing faculty development programs. We must ensure the seed is ready to germinate and grow adjusting the conditions if they are not favourable. This should be done alongside the needs of the medical school and the teaching hospitals so that mutual trust and respect are gained and that all stakeholders feel part of the medical education development process and to prepare the fertile ground.
6.5 Inhibitors – The Seed Falls on Rocky Ground, is Choked by Weeds or Eaten by Birds

The inhibitors of transferring lessons learned in the workshop to their current teaching practice, were identified by clinicians as a lack of time, increasing student numbers and the diverse needs of regional students (Rocky Ground). In addition, senior staff being resistant to change (Eaten by Birds) and the working conditions of the University, including inadequate teaching spaces and a lack of staff were all identified (Choked by Weeds). The inhibitors impact on each other, for example, the increasing student numbers mean it is difficult to find adequate teaching spaces, and a lack of time is compounded by teaching staff shortages.

The literature supports these conflicting priorities on busy clinicians who are juggling increasing demands from patient care, the requirements of clinical service and research, whilst supervising increasing numbers and many levels of students and trainees.\(^6,39\) A lack of time is often cited as a barrier to faculty development\(^11,50,92\) and this is particularly true in low-resource settings where staff recruitment and retention are difficult and clinicians are required to fill many roles.\(^22\)

Additionally, to encourage senior staff to engage in faculty development a different approach needs to be taken. As the model suggests, there is a continuum of one’s readiness to change (between being closed to being open) which is influenced by the clinician’s previous experiences, the enablers and barriers to change which is supported by Steinert and colleagues views on faculty development.\(^31\) Furthermore, Kumar and Greenhill\(^48\) identified three factors that affected how clinicians translate workshop knowledge and skills into behaviour in their interviews with clinical educators in a medical school in Australia. Those factors included context, personal and interactional. Interestingly, and similar to this study’s results, motivation was identified as a key factor in the personal domain. Motivation was also identified as a theme in Sorinola et al’s qualitative research about faculty development for medical educators in the U.K.\(^49\) So, how do we motivate clinicians who do not want to change? As Bligh\(^32\) suggests, we need to listen to their ideas, concerns and needs and ensure we address those in targeted faculty development initiatives.

The working environment can also affect an academic’s motivation to engage in extra faculty development activities and it is frustrating to learn and want to implement new skills and knowledge that cannot be put into action due to structural constraints.\(^22,49\) Finding
solutions to these inhibitors to change is essential if faculty development is going to progress in the Pacific setting. This study highlights some key areas for improvement. First, protected time for clinicians to learn and reflect on medical education strategies needs to be encouraged.\textsuperscript{22,91,93} Innovative solutions will be needed to create the time and space such as using recorded lectures to provide some of the required material to students and having shorter interactive sessions for them to ask questions. This may also free up some teaching spaces if students are not all on campus at the same time.

Overall, the rocky ground, choking weeds and hungry birds as inhibitors of time, increasing students, resistant staff and the workplace environment will need addressing in collaboration with the University and staff to find effective solutions for faculty development and to help clinicians evolve their learning and teaching philosophy and enable them to change their teaching practices.

### 6.6 Enablers – The Seed is Planted in Fertile Soil

Enablers identified that would assist in changing teaching practice included more support from the University in the form of further faculty development; peer learning and fostering communities of practice; and more teaching spaces with the appropriate equipment. Many of these enablers are solutions to the current inhibitors. University support for faculty development has been advocated by many in the medical education literature\textsuperscript{4,32,39,49,94} and there is a call for the professionalisation of medical education and standardised frameworks.\textsuperscript{4,31,95} In the Pacific, support for faculty development has been slow to emerge due to a lack of funding and experts to conduct training programs. As the field of medical education grows in the Pacific, the medical school would benefit from collaboration with established medical education units in developed and developing countries to ensure relevant faculty development programs are established,\textsuperscript{96,97} and to ensure sustainability.\textsuperscript{98}

Suggestions for future medical education faculty development included dedicated time, flexible on-line courses, weekly ‘Tips’ and guidelines, plus further and follow-up medical education workshops. These requests are not isolated to the Pacific. De Golia\textsuperscript{92} researched the needs of American resident psychiatrists in medical education faculty development and although there was only a 20% response rate, those who did respond (\textit{n}104) requested protected time, teaching skills workshops and mentoring. This is consistent with other
research that emphasizes the importance of listening to the needs of the clinicians to get ‘buy-in’ and consequently create opportunities for them to be more open to change.\textsuperscript{49,88,99} Furthermore, consideration needs to be given towards more non-traditional avenues to faculty development, especially for the Pacific where access to formal medical education is currently limited, for example, including medical education into the weekly CME meetings, having informal drop-in sessions and posting the weekly ‘Tip’ on medical education or developing medical education guidelines.\textsuperscript{31}

Peer learning and communities of practice can also assist in the process of change.\textsuperscript{37,63} The clinicians in Fiji are beginning to embrace peer learning and based on this study, there is some evidence of informal communities of practice developing. There was a recognition that these would be useful in the future to learn from each other and promote faculty development. Pololi and Frankel\textsuperscript{91} found in their research that clinicians valued these opportunities to share their teaching experiences during monthly lunchtime meetings because it gave them time for peer review and improvement. Unfortunately, Pololi and Frankel’s study which involved only 11 participants relied solely on self-reported data, so it is difficult to assess if an actual change in practice took place. Furthermore, Higgs and McAllister\textsuperscript{87}, Steinert \textit{et al}\textsuperscript{37,39} Cruess \textit{et al}\textsuperscript{100} and Fullan\textsuperscript{61,99} advocate for communities of practice for promoting educational change. So, how do we promote peer learning and communities of practice in an environment that includes inhibitors of being time poor, lacking staff and sometimes being resistant to receiving feedback? Suggestions include having lunchtime or breakfast meetings\textsuperscript{91}, valuing the time spent by allowing clinicians to count it towards their professional development and addressing common learning and teaching problems faculty are facing.\textsuperscript{32}

A further suggestion for improvements in medical education practice was the availability of quality teaching spaces and equipment. This current inhibitor and suggestion for future improvement has not been found in the faculty development literature and is perhaps unique to this study, which was conducted in Fiji, a low-resource setting. The new medical school in Fiji was built for an annual intake of 60 medical students. This number has now increased to 100 and intakes have increased across all health professional programs, but no extra teaching spaces have been built to accommodate this growth. This study will recommend to the University the need to increase the number of teaching facilities to meet the needs of staff and students to ensure positive and effective teaching environments in the future.
The enablers clinicians identified are similar to those found in the literature\textsuperscript{37,39,87,91,100} and therefore the University should be encouraged to provide the fertile soil for growth by supporting further medical education faculty development, peer learning, communities of practice and an improved working environment to assist clinicians to evolve their learning and teaching philosophy.

6.7 Evolving Learning and teaching philosophy – The Plant Begins to Grow

The medical education workshop in Fiji provided clinicians with protected time to reflect and gain insights into their teaching practices. In addition, the research process aided their reflection by asking them to complete reflective diaries and interviews about their teaching practice. The process of change was individual for each clinician and complex, involving a maze of pathways through identifying problems, finding solutions, reflecting, and gaining insight. An important element in the learning process that evolves one’s learning and teaching philosophy is reflection. Reflection as a facilitator for change has been identified in qualitative research around faculty development and the transformation of teaching practices.\textsuperscript{49,50,91}

In Fiji, the use and promotion of reflection in the medical curriculum is minimal and as the study progressed, it became evident that some of the clinicians found it difficult to reflect. If reflection is necessary for change to occur, then developing reflective practice must be incorporated into faculty development and not just be left to chance. Mann\textsuperscript{101} in her systematic review on reflective practice in health professionals found that there is a range of ability amongst professionals to reflect, however there is evidence that reflective practice can be improved over time and with guided practice. It is recommended that guidance and feedback be provided from supportive supervisors or mentors to assist effective reflective practice.\textsuperscript{70,101} Through the research process the clinicians began to reflect but at different levels and it cannot be guaranteed that this would have happened without the support of the reflective journals with guiding questions and the interviews. To enable the clinicians to grow as educators a suggestion for future workshops and faculty development would be to build in teaching how to reflect and allow clinicians time to undertake and practise reflection through sharing their thoughts with a peer, mentor, or the group.
6.8 Changing Practice – Producing Fruit

The study showed that seven clinicians changed their practice since the workshop (reported and observed) and were able to give specific examples of how they had changed. For two others the workshop merely validated what they perceived they were already doing. The initial intention of the study was to observe or video-record two episodes of teaching for each clinician, however due to the clinical work commitments of the clinicians and the researcher’s limited time in the field, only one episode of teaching was recorded for each clinician. This makes it difficult to provide evidence that there was a change in teaching practice. What the study showed, however, was that where the clinicians had reported that they had changed practice in a specific area that this teaching could also be observed. Sometimes the observed teaching matched with the reported changes and at other times it did not.

The example used in the results was when Alice reported that she now used the ‘horseshoe’ arrangement for conducting tutorials, but when the lesson was observed, this was not quite achieved (researcher observation). After the lesson, Alice reflected in the follow-up interview that due to the increased number of chairs, the horseshoe arrangement had not been as successful as it could have been, and she identified that in the future she would arrange the chairs prior to the tutorial. What also needs to be highlighted here are the different perceptions from the teacher changing her ways and the observation of the researcher, who has had the opportunity to expand her medical education knowledge and practices. Alice felt she had improved, and indeed she probably had, for she describes that previously, in another tutorial room, she would sit behind the students who sat around a small table and she found it difficult to engage the students. However, this could not be proved on the video of observed teaching.

In this study the observed video of teaching was able to identify which aspects of active or innovative teaching were occurring but not if a change had occurred, however, when used with the reflective journals and interviews, it was useful to corroborate the clinician’s perceptions of change. In the recent qualitative literature around change in teaching practice after medical education training there was little observed teaching. Many rely on interview data only48,90,91, although Sorinola et al49 argue that the interviews with the supervisors of clinical educators were based on observing practice. In the research that has included observed practice, those were more focused on what it was like being a medical educator.
or observing the influence of the working environment on clinical teaching. In looking at the original articles from Steinert et al’s systematic review of faculty development, of the studies that were classified to have shown an observed change in practice after a medical education workshop, one was based on a self-filled questionnaire pre- and post-intervention, another relied on a questionnaire given to faculty and students where the faculty thought they had improved after the medical education workshop but the students did not notice a change. Furthermore, a recent qualitative case study on studying changing practice after a workshop identified in their recommendations that observation of teaching would be beneficial in further studies. Whilst the present study cannot prove a change of practice took place based only on one observation it does support the self-reported changes made for seven of the clinicians.

From the medical education literature reviewed, no articles were found that directly observed changing teaching practice after a faculty development program. In future, as Lee has recommended, it would be beneficial to observe teaching before a medical education intervention and again afterwards to be able to note a tangible change in teaching practices. Similar types of teaching would need to be observed and it would be ideal if feedback could also be attained from the students to see if the change was well received. It was not within the scope of this study to obtain feedback from the students, however, the teachers were asked in the interviews if they had received any response from the students after changing their teaching practice.

6.9 The Teachers’ Perceptions of the Response from the Students – How Sweet was the Fruit?

Reported student feedback to clinicians was mixed in the interviews conducted. The more senior clinicians were reluctant to seek feedback as they felt it would reflect poorly on their teaching. Others had sought formal feedback through the University but either they had not received it or the processes to gain formal feedback had failed. When asked about informal feedback, the clinicians reported that there had not been much change, but acknowledged that when they asked the students directly, they often just say it was ‘OK’. Some students had commented to the clinicians that they liked the new style of teaching, or the clinicians noticed better attendance at teaching sessions or improved results. None of the above feedback can act as evidence of change having a positive impact on the students as they are
the perceptions of the clinicians on how the students have responded. However, they
highlight the need for more formal avenues for student feedback to inform the evaluation
process of improving and evolving education practices.

The impact on student learning is one of the highest levels of Kirkpatrick’s model\textsuperscript{23} of
evaluation for medical education interventions, nevertheless it is difficult to prove that one
medical education intervention has had a direct impact on student learning as there are
many variables such as being taught by different teachers, a change in the curriculum and
peer support in that student year group, to name a few. Statistical analysis of examination
results may show a trend of improvement but may not show a statistically significant
change as in Shield et al.’s\textsuperscript{45} research on faculty development training for PBL tutors. The
complexity of learning and the various factors affecting it make it difficult to evaluate the
impact of one intervention or one person.

Taking into account the above, it is still widely acknowledged that feedback from students
should form part of the evaluation process for teaching\textsuperscript{6,102,103} and is incorporated in the
model of change in ‘How did it go?’ However, as seen from the study, feedback from
students is not common practice. The culture in Fiji promotes respect for elders and the
students have grown up in a collectivist culture where the teacher is correct and should not
be challenged.\textsuperscript{104} With this cultural background it is difficult for students to provide
clinicians with corrective feedback and there is a fear of reprise as the clinicians who teach
the students are also the ones who examine them.\textsuperscript{102} The formal anonymous processes
through the University appear to have failed in providing feedback to the clinicians and
again this highlights an area in need of improvement within the University. The need for
improving the collection of student feedback and evaluating whether the fruit of education
was sweet highlights one of the limitations of this study which will be expanded upon next.
6.10 Limitations of the Research

As with all qualitative case study research, the findings are context-dependant and data were gathered from only nine clinicians. However, for this study clinicians who participated had a wide range of experience and although it was voluntary to participate in the study, all academic faculty in the School of Medical Sciences were asked to take part in the workshop. This is different from other qualitative studies that mainly focus on faculty development strategies that clinicians have chosen to do, therefore this study has also captured the journeys of those clinicians who are less open to medical education faculty development.

In addition, only one videoed teaching episode per clinician was able to be recorded. The teaching that was observed was just a snapshot and could not capture all the changes to teaching that the clinicians may have made following the workshop. Although some of the reported changes could be corroborated by the videos, the observations cannot be used to prove that change has occurred. Furthermore, it was beyond the scope of this study to gather feedback from the students about the changing teaching practices of the clinicians.

Finally, the insights gained by the researcher are influenced by her experiences, beliefs, and values. Although reflexivity was practiced, along with triangulation of the data, member checking and confirmation of themes, the unconscious biases of the student researcher are likely to have influenced the interpretation of the data.
6.11 Recommendations for Medical Education Faculty Development in Fiji

Despite the limitations of this study, recommendations for faculty development in Fiji that may be able to be translated across the Pacific and to other low-resource settings are possible. The recommendations for faculty development from this study, which were discussed earlier, are summarised here and include:

- First, the culture of the University, medical school and individual disciplines need to be considered when developing medical education faculty development programs and it would be advisable to meet with stakeholders to determine their needs and expectations of medical educators.

- Second, it would be wise to recommend to the University and medical school that clinicians need a supportive work environment in order to change their teaching practices, this would include adequate staffing and teaching and learning spaces, protected time for faculty development and recognition of learning and teaching as a core role of clinicians’ work.

- Third, to engage most clinicians in medical education development, their needs and perceptions around medical education training should be elicited before designing faculty development programs. These medical education faculty development initiatives should be flexible to allow clinicians time to fulfil the requirements of the award and follow Steinert and colleagues framework37 including a mixture of on-line and face-to-face, individual and group activities to suit their learning needs, as well as providing support through mentorship.

- Fourth, develop a culture of peer learning and communities of practice, initially with regular breakfast or lunchtime meetings where clinicians can primarily share their stories around educational practice and receive ‘Tips’ from educational experts in a safe environment, before moving onto peer observation and feedback.

- Fifth, incorporate ‘how to reflect’ into the faculty development programs and provide space and time for clinicians to practise guided reflection on teaching practice with feedback.

- Sixth, promote formal and informal feedback from students and help clinicians accept honest feedback in a positive way.
• Seventh acknowledge that change is a complex process and individual clinicians will adopt and adapt to medical education initiatives in their own way as they perceive what is useful or not for their own educational practice.

The recommendations listed above will help encourage and support the journey of change and assist clinicians to grow and produce sweet fruit that will enhance medical education and student learning at FNU. These recommendations may not surprise the reader as they have been suggested before in the literature.\textsuperscript{4,31,32,49,87} However this study suggests that those documented recommendations are also applicable to the Fiji setting. All too often programs are taken ‘off the shelf’ and applied in a new setting and fail to work. The medical education workshop was designed with the Pacific clinicians in mind and developed in consultation with a local clinical educator. One of the questions at the beginning of this thesis was whether workshops were an effective way of delivering medical education in the Pacific. With the unique geography of the Pacific and with medical schools situated only in Fiji, Samoa and Papua New Guinea to consider, medical education workshops can be an effective way of delivering faculty development. The results from this study and the literature would suggest that workshops should be situated in the context of the setting and that the inhibitors and enablers to change should be addressed. Furthermore, guided reflective practice and mentorship along with developing communities of practice would enhance the transfer of knowledge and skills to the workplace. Fiji is now in a unique position to learn from this study and the literature as it develops a medical education unit and faculty development programs for the Pacific into the future.
6.12 Recommendations for Further Research

As addressed above this study has limitations which have illuminated other areas in need of research:

- First, it would be beneficial to do long term observations of teaching to provide evidence for change over time. A validated tool for observing clinicians teaching should be developed to minimise the bias from the observer’s perceptions.
- Second, feedback data from students should be incorporated into future research to gauge the impact an educational intervention has on learning. If possible, confounding variables should be controlled for, such as interviewing the same students, being taught by the same clinician, before and after the medical education intervention.
- Third, looking for evidence of organisational change should also be incorporated as suggested by the highest levels of Kirkpatrick’s evaluation pyramid.
- Fourth, the realist evaluation theory exploring how change occurs could be applied to further research around the Pacific to explore the context, mechanism and outcomes of medical education workshops and how these compare with the findings from Fiji.
- Fifth, the model for change should be tested in other contexts in the Pacific or in other low-resource settings to ensure it is applicable to other settings and if it requires modification.
6.13 Reflections from the Researcher

As the student researcher undertook this study and her own ontological and developmental leadership training, she began to gain insights into the clinicians’ narratives. She realised that the clinicians were doing the best they can with what they know within the constraints of their previous experiences, beliefs, and values, as well as the external constraints of time, space, and organisational structural support. This helped her to be more open when conducting the interviews and to be accepting of the clinicians’ views even though she had helped facilitate the workshop.

As the data were analysed into themes, she was struck with the ‘Parable of the Sower’ and its applicability to the findings. In the parable of the sower the seed is scattered by the farmer and some lands on the path and is eaten by the birds, others fall on rocky ground and do not grow well, still others fall on fertile soil but are choked by the weeds, only a few fall on fertile ground and produce ears of corn. The seed is the clinician, those that fall on the path and are eaten by birds are those that attend the workshop but are not ready for change, those that fall on rocky ground or are choked by the weeds would like to change but are held back by the inhibitors to change. Lastly those who fall on the fertile ground are enabled to produce quality sweet fruit that implements and sustains real change in medical education to benefit both the student and the organisation.

How can we ensure that the seed falls on fertile ground and grows? As has been identified by McKimm et al.22 we need to make time for faculty development, nurture and support our clinicians as they begin their medical education journey.
6.14 Concluding Statement

The medical education literature advocates for faculty development in medical education and has provided evidence that medical education workshops can result in participant satisfaction and self-reported changes in attitude and behaviour. There was an identified gap in the current literature around the process of change after a medical education workshop, especially in low-resource settings, which led to this qualitative case study focusing on nine clinicians who had attended a medical education workshop in Fiji. The aim of the study was to find out ‘how’ Fijian clinicians translated the knowledge and skills from the medical education workshop to their teaching practice. This was achieved through inviting the clinicians to participate and establishing rapport before gathering data from reflective journals, interviews, lesson plans and observation of teaching.

The study illustrated the breadth of the clinicians’ experience and their engagement with the research process. In addition, the clinicians’ narratives revealed their individual stories since the medical education workshop and the journeys they have taken to change their teaching practice. These stories, embedded in the data, led to common themes being identified across all clinicians’ experiences. These included the perception of the workshop as useful or not useful, resulting in an evolving learning and teaching philosophy and leading to a change in teaching practice. These were influenced by the individual teacher’s perception of the response from the students, the inhibitors, and enablers of change. The insights from the results led to a model of change that was compared with the educational change and medical education literature. The model illustrated the complexity of change and the myriad of factors that need to be considered when designing faculty development initiatives. These ranged from the culture of the workplace, to individual’s experience in teaching and learning, as well as numerous inhibitors and enablers. The model also acknowledged the maze of pathways through which change could occur by allowing clinicians to reflect and gain insight by identifying problems and solutions. Furthermore, understanding that each clinician’s journey is unique as they evolve their learning and teaching philosophy and implement and reflect on change.

Finally, the discussion was explained using the metaphor of the ‘Parable of the Sower’ to show the clinician as a seed and the factors that could affect their growth to become the plant of a medical educator producing the sweet fruit of effective teaching. Furthermore, the literature was examined in relation to the findings which led to a series of
recommendations for faculty development in Fiji and for further research. The recommendations for faculty development included involving all stakeholders before designing faculty development initiatives, providing a supportive work environment, developing communities of practice, and assisting reflective practice and feedback processes. Undoubtedly, further research is needed to confirm these findings and to undertake longer term studies on observed change over time together with the impact on the students and organisation.

Much research has occurred in well-resourced countries around faculty development and there is a call now to look beyond ‘teaching the teachers to teach’ to assisting medical educators promote organisational change and educational leadership\textsuperscript{105}, as well as developing communities of practice\textsuperscript{37} and promoting learning in the workplace.\textsuperscript{11,39} Fiji is fortunate to be able to take advantage of the lessons learnt in the Western world as it begins to design its medical education faculty development program. However, Fiji does need to be cognisant of the needs of the University and the faculty to develop relevant and acceptable programs.

The wider medical education audience can use the insights from this study and the model of change to apply in their setting. The context, enablers and inhibitors, and experiences of their faculty will be different, but the model may help others to think about the complexity of change and which areas need addressing in their context so that the seed is given the best chance to grow and bear sweet fruit.
7 References

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8 Appendices

8.1 Appendix 1: The Evaluation Form for the Fiji Medical Education Workshop

Workshop on Medical Education for Fiji - DMS
23rd to 29th November 2017
Teaching and Learning

How useful did you find the workshop?

Please rate the workshop by ticking one box for each statement to indicate the usefulness of the workshop for you from not at all to very useful for each of these statements ....

<table>
<thead>
<tr>
<th>How useful was the workshop in....?</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Quite useful</th>
<th>Very useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. Improving your confidence levels about teaching and learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2. Improving your teaching and learning skills/techniques</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3. Increasing your knowledge of new information about teaching and learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4. Revising your current knowledge about teaching and learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q5. List the three most important (for you) pieces of information you will take away from the workshop

1) __________________________________________________________
2) __________________________________________________________
3) __________________________________________________________
Q6. Can you suggest any topics that you would like included in future workshops?

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

Q7. Please provide feedback on the usefulness of different topics covered in this workshop …

<table>
<thead>
<tr>
<th>Topic</th>
<th>Not at all useful</th>
<th>A little bit useful</th>
<th>Quite useful</th>
<th>Very useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understanding learners - VARK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Information on how we learn and learning theories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Factors that affect learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Planning teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Teaching learning cycle ie before, during, after teaching model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Designing activities using Bloom’s taxonomy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Asking questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Giving feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Large and Small group teaching</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10. One-minute preceptor</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11. Teaching with patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Teaching procedural skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Facilitating clinical reasoning skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topic</td>
<td>Not at all useful</td>
<td>A little bit useful</td>
<td>Quite useful</td>
<td>Very useful</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>14. Student assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Journal clubs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Evaluation of teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q8. Please list any other suggestions or comments you have for improving future workshops:

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________


8.2 Appendix 2: The Results from the Fiji Medical Education Workshop Evaluation Form

Workshop on Medical Education for School of Medical Science - FNU
23rd to 29th November 2017

How useful did you find this week’s workshop?
Please rate the intensive workshops by ticking one box for each statement to indicate the usefulness of the workshop for you from not at all to very useful for each of these statements.

<table>
<thead>
<tr>
<th>How useful was this week’s workshop in....?</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Quite useful</th>
<th>Very useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. Improving your confidence levels about teaching and learning</td>
<td>10% (2)</td>
<td>38% (8)</td>
<td>52% (11)</td>
<td></td>
</tr>
<tr>
<td>Q2. Improving your teaching and learning skills/techniques</td>
<td>5% (1)</td>
<td>33% (7)</td>
<td>57% (12)</td>
<td></td>
</tr>
<tr>
<td>Q3. Increasing your knowledge of new information about teaching and learning</td>
<td></td>
<td>24% (5)</td>
<td>76% (16)</td>
<td></td>
</tr>
<tr>
<td>Q4. Revising your current knowledge about teaching and learning</td>
<td>5% (1)</td>
<td>24% (5)</td>
<td>71% (15)</td>
<td></td>
</tr>
</tbody>
</table>

Q5. List the three most important (for you) pieces of information you will take away from the workshop this week

<table>
<thead>
<tr>
<th>Most useful information</th>
<th>No. of participants</th>
<th>Percentage of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback</td>
<td>12</td>
<td>57%</td>
</tr>
<tr>
<td>Lesson plan</td>
<td>9</td>
<td>43%</td>
</tr>
<tr>
<td>Planning</td>
<td>8</td>
<td>38%</td>
</tr>
<tr>
<td>Active learning</td>
<td>6</td>
<td>29%</td>
</tr>
<tr>
<td>VARK</td>
<td>4</td>
<td>19%</td>
</tr>
<tr>
<td>Evaluation</td>
<td>4</td>
<td>19%</td>
</tr>
<tr>
<td>Learning Objectives</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Large and small group teaching</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Time management</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Know your learner</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Assessment</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Always learning</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>One-minute preceptor</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Learning theories</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Student-centred</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Teaching with patients</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Intro – body – summary</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Learning Pyramid</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Asking questions</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>SMART acronym</td>
<td>1</td>
<td>5%</td>
</tr>
</tbody>
</table>
Q6. Can you suggest anything that you would like included in future workshops.
1. Standard setting, blueprinting and rubrics in Assessment – 43% (9)
2. More on feedback (groups) – 14% (3)
3. Evaluation – 14% (3)
4. How to manage the difficult/struggling trainee
5. Do more of different questions at the various Bloom’s levels
6. More clinical problems to illustrate the theories
7. More practice for teaching skills
8. Cultural influences on learning
9. Need to repeat the workshop or start the GCME again

Q7. Please provide feedback on the usefulness of different topics covered in this workshop.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Not at all useful</th>
<th>A little bit useful</th>
<th>Quite useful</th>
<th>Very useful</th>
<th>No response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understanding learners - VARK</td>
<td></td>
<td>24% (5)</td>
<td>76% (16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Information on how we learn and learning theories</td>
<td></td>
<td>62% (13)</td>
<td>38% (8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Factors that affect learning</td>
<td></td>
<td>29% (6)</td>
<td>66% (14)</td>
<td>5% (1)</td>
<td></td>
</tr>
<tr>
<td>4. Planning teaching</td>
<td></td>
<td>5% (1)</td>
<td>19% (4)</td>
<td>76% (16)</td>
<td></td>
</tr>
<tr>
<td>5. Teaching learning cycle-before, during, after teaching model</td>
<td></td>
<td>5% (1)</td>
<td>24% (5)</td>
<td>71% (15)</td>
<td></td>
</tr>
<tr>
<td>6. Designing activities using Bloom’s taxonomy</td>
<td></td>
<td>5% (1)</td>
<td>38% (8)</td>
<td>57% (12)</td>
<td></td>
</tr>
<tr>
<td>7. Asking questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47.5% (10)</td>
</tr>
<tr>
<td>8. Giving feedback</td>
<td></td>
<td>5% (1)</td>
<td>14% (3)</td>
<td>81% (17)</td>
<td></td>
</tr>
<tr>
<td>9. Large and Small group teaching</td>
<td></td>
<td>10% (2)</td>
<td>33% (7)</td>
<td>52% (11)</td>
<td>5% (1)</td>
</tr>
<tr>
<td>10. One-minute preceptor</td>
<td></td>
<td>5% (1)</td>
<td>47.5% (10)</td>
<td>47.5% (10)</td>
<td></td>
</tr>
<tr>
<td>11. Teaching with patients</td>
<td></td>
<td></td>
<td></td>
<td>52% (11)</td>
<td>48% (10)</td>
</tr>
<tr>
<td>12. Teaching procedural skills</td>
<td></td>
<td>5% (1)</td>
<td>47.5% (10)</td>
<td>47.5% (10)</td>
<td></td>
</tr>
<tr>
<td>13. Facilitating clinical reasoning skills</td>
<td></td>
<td>5% (1)</td>
<td>43% (9)</td>
<td>52% (11)</td>
<td></td>
</tr>
<tr>
<td>14. Student assessment</td>
<td></td>
<td>5% (1)</td>
<td>43% (9)</td>
<td>42% (9)</td>
<td>5% (1)</td>
</tr>
<tr>
<td>Topic</td>
<td>Not at all useful</td>
<td>A little bit useful</td>
<td>Quite useful</td>
<td>Very useful</td>
<td>No response</td>
</tr>
<tr>
<td>-------------------------------</td>
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<tr>
<td>15. Journal club</td>
<td></td>
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<tr>
<td></td>
<td>14% (3)</td>
<td></td>
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</tr>
<tr>
<td>16. Evaluation of teaching</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>5% (1)</td>
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</tr>
</tbody>
</table>

Numbers of participants who responded is in brackets.

Q8. Please list any other suggestions or comments you have for improving future workshops:
1. Repeat after one to two years (4)
2. Do the workshop over a longer period as very intense (4)
3. Well conducted workshop and all material was excellent (3)
4. A separate workshop on assessment (2)
5. Good to have the workshop away from the workplace (2)
6. Improve the PA system (2)
7. More small group activities
8. USB and written material useful to help ongoing learning
9. More reading material before the workshop
10. More practice on feedback
11. Try and link medical education theory to clinical teaching

“It’s the best workshop I have ever had!”
8.3 Appendix 3: Continuing Professional Development Points for Research Participation Approval

Dr. Virgilio de Asa <drvdeasa@nasesemed.com>

Apr 13, 2018, 4:39 PM

to Jemesa, me, Odille, Francis, Emi, Alipate, Dharmesh

Hi All,

Attached are self explanatory details on the medical education workshop conducted under the auspices of FNU from Nov 23 to 29 at Novotel, Suva provided by Dr. Sinead Kado (Workshop facilitator) - a very exhaustive discussions on methodologies of learning and teaching, clinical reasoning skills and a thesis research proposal. I would agree with the request of the facilitator and recommend to award 6 CPD points to all participants.

Dr. Virgilio deAsa

Chair, MPSC
8.4 Appendix 4: Invitation Email to Clinicians to Participate in the Research.

Invitation to participate in Sinead’s Masters research project

Bula Vinaka and greetings from Western Australia.

I hope this e-mail finds you well. I am a Senior Lecturer in Health Professions Education at The University of Western Australia and I am supervising Dr Sinead Kado’s Masters Research project. Please see the following information from Sinead about the project below:

Dear……

I am writing this email to ask you to consider being part of my research Project.

I am exploring how clinicians in Fiji use the medical education workshop we conducted in November last year in their everyday teaching practice.

The research will require approximately one hour per week of your time over six weeks (during term 2 & 3) and will include keeping a reflective journal, participating in up to three interviews, making two lesson plans, and video recording those planned lessons.

Full details are in the participant information form attached.

I realise that you are busy with the medical school and your clinical duties, but I hope you will be able to take up this opportunity to be part of the research. The potential benefits include improving your own teaching practices, as well as helping to inform future faculty medical education development to ensure that we are meeting the needs of clinicians. Furthermore, the Fiji Medical and Dental Council has agreed that you may count this participation towards your CPD points for the year. I have requested a minimum of 6hrs to be allocated.

Thank you for your time in considering this request. Please reply via email by the 18th April to indicate your willingness to participate or if you are unable to take up this opportunity at this time. Also, please do not hesitate to contact me if you would like to discuss the research project further and what it would entail to take part.

Kind regards,

Sinead Kado & Gabrielle Brand

Sinead: 22121854@student.uwa.edu.au

Gabrielle: Gabrielle.Brand@uwa.edu.au

UWA Human Research Ethics Committee approval RA/4/20/4300
8.5 Appendix 5: Clinician Participant Information Form (PIF) and Consent Form

Participant Information Form - Clinicians

Project title: How do Fijian Clinicians translate lessons learned in medical education workshops to their workplace?

Name of Researchers:
Sinead Katherine Kado (Masters student)
Gabrielle Brand (Supervisor – Health Professions Education Unit – UWA)
Iris Lindeman (Supervisor – Faculty of Medicine – Flinders University)

Invitation:
You are invited to participate in a research project about how clinicians use knowledge from a medical education workshop in their clinical teaching practice. You are being invited to take part in this project because you attended the medical education workshop in Fiji in November 2017.

Aims of the Study - What is the project about?
This research hopes to gain a better understanding of how knowledge gained in medical education workshops is being translated into clinical teaching practice. The findings will help to improve medical education development strategies to improve teaching and learning in low-resource settings.

The aims of this research are:

1. To explore how Fijian clinicians, use knowledge gained in medical education workshops in Fiji, in their daily clinical teaching practice.
2. To add to the gap in the current literature on ‘why’ and ‘how’ clinicians use workshops to change their teaching practice.
3. To identify successful clinical teacher development strategies that could be applied in other low medical education resource settings like Fiji.

What does participation involve?
Participation in this research requires you:

1. To keep a reflective journal over six weeks on how you are implementing lessons you learnt from the workshop in your teaching practice. The journal will provide guiding questions to assist you in your reflections and will require approximately one hour a week of reflective writing.
2. To be interviewed by the principal researcher up to three times by Skype or similar to clarify points made in the reflective journal. Interviews will last approximately thirty minutes and will be audio recorded.
3. To provide lesson plans for two separate videoed teaching sessions.
4. To have the lesson videoed by a third party (eg. one of the clerical staff or a peer) and send it to the primary researcher.
Voluntary Participation and Withdrawal from the Study

Participation in this research project is completely voluntary and you may withdraw from the study at any time. Data that is identifiable to you will be destroyed when you withdraw unless you agree for the data already obtained to be analysed.

In addition, there will be no consequences on your teaching appraisal or promotion based on your participation or withdrawal from this study.

Your privacy

Your privacy is of utmost importance therefore the following measures will be taken to ensure the information you provide remains confidential.

1. Findings from this research will be published but you will not be identified in any part.
2. Data gathered will be de-identified and any information you provide will be confidential.
3. The de-identified data will be kept in a secure password protected server for a minimum of seven years.

Possible Benefits

By participating in this research, you will be able to reflect on your teaching practices and revisit the lessons learned from the workshops. This may help you improve your teaching practices. Furthermore, this research could benefit medical education development strategies in the future for the Pacific. Permission will be sought to allow you to count this participation in research towards your annual continuing professional development requirements.

Possible Risks and Risk Management Plan

The risks associated with this research are minimal, however, you may feel discouraged if you have not been able to utilize the lessons from the workshop. If this should occur, you may request to discuss this with the teaching and learning unit to access support for your professional development. The project also requires a commitment of time up to two hours per week. If this will be difficult to commit to but you would still like to participate, please contact the principal researcher (see contact details below).

Contacts

If you would like to participate or discuss any aspect of this study, please feel free to contact Gabrielle Brand at gabrielle.brand@uwa.edu.au.

Yours Sincerely,
Gabrielle Brand
Chief Investigator
Email: gabrielle.brand@uwa.edu.au

Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time. In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Ethics office at UWA on (08) 6488 4703 or by emailing to humanethics@uwa.edu.au. All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project.
Participant Consent Form
For Clinicians

How do Fijian Clinicians translate lessons learned in medical education workshops to their workplace?

Thank you for volunteering to take part in this research project about how clinicians use lessons learned from medical education workshops in practice.

I, ____________________________________________ (full name) have read the information provided and any questions I have asked have been answered to my satisfaction. I agree to participate in this research project, realizing that I may withdraw at any time without reason and without prejudice.

I understand that all identifiable information that I provide is treated as confidential and will not be released by the investigator in any form that may identify me. The only exception to this principle of confidentiality is if this information is required by law to be released.

I agree that the data collected may be published whilst ensuring that I will not be identified in any way.

_________________________ ______________________
Participant signature Date

Contact details for organising interview dates_____________________________________________________

Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Ethics Office at the University of Western Australia on (08) 6488 3703 or by emailing to humanethics@uwa.edu.au.

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project.
8.6 Appendix 6: Tips for Reflective Writing

Tips for Reflective Writing

1. Find a time and space when you can think without distraction.

2. Express yourself freely, be frank and honest. There are no right or wrong answers

3. Don’t worry about spellings, grammar and punctuation. (But it would be helpful if it is legible!)

4. Describe the situation first: who, what, where, when.

5. Then think about ‘why’ and ‘how’ this situation occurred. (Think about your own assumptions, the students, institution, skills you had or needed)

6. Reflect on how you will use these insights in your future teaching practice.
Appendix 7: Reflective Question Prompts

Guiding Questions for Reflection

The following prompts can guide your journal entries:

1. **Describe the teaching session:**
   a. **Who** (which students, how many)
   b. **What** (planned/unplanned teaching session, theory or practical, was there assessment and/or feedback included)
   c. **Where** (classroom, clinical setting, lab – what was the learning environment like...space, equipment)
   d. **When** (the date of the teaching, what time, how long was the session)

2. **One word:** What was the first word that popped into your head when describing this session?

3. **How did you feel?** – describe your reaction to the teaching session, why did you feel like that?

4. **The good, the bad and the surprising!** Can you give an example of what went well and what you would like to do differently next time to help students learn? Why? Did any part of the session surprise you? If so, which part and why?

5. **The medical education workshop:** Describe if there is an aspect of the workshop that you used in this teaching episode, how did you use it and how did it go? (you may like to look back at the workshop timetable in the front of your journal as a memory jogger)

6. **Something new?** Thinking back to the session, did you try something new? – where did you learn the new technique? - how did it go? – would you use it again? – why or why not?’

7. **Helpers and Hindrances:** Did anything help you with your teaching (facilitators)? What made it difficult or challenging (barriers)?
8.8 Appendix 8: Email of Instructions on How to Use the Reflective Journal.

The journals have arrived! They are with Ashiq.

The following will help you to participate in the research:

1. Please print and sign the consent form (see attached), then scan it and send it back to me.
2. Show Ashiq the consent form and collect your Journal.

3. Fill in your name on the first page as they are all the same!
4. Also decide on a pseudo name that you would like to be used when I am writing up the research...it can be anything you like as long as you will not be identified by it. Eg. I might use Jane as my pseudo name.
5. Fill in the personal details page about your years of teaching and other medical education training.
6. Read the tips for reflective writing and the guiding questions.
7. The workshop timetable and learning objectives are pasted at the front of the journal to remind you what was covered. I have also attached to this email the report which gives a brief description of each session and a few pictures to jog your memory.

8. When you decide to reflect on a teaching episode you may either hand write the responses in the journal, type them, or audio record them on your phone .... whichever you will find easier....and then send it to me electronically.
When you have sent me the journal entries for two or three teaching episodes, I will arrange a time to call and have a chat about your entries to make sure I have understood your thoughts correctly.

9. When you decide to record a teaching session it would be ideal if there was also a lesson plan for it. I have attached the lesson plan proforma that we used in the workshop if you want to use it, but any lesson plan will be ok. The students will also need to be consented to be in the video.
10. Email me when you want to video a session and I will send you the student participant information form and the student consent forms.... I will also try to arrange for a research assistant to come and consent the students and take the video of the lesson.....this may not always be possible though.

Please do not hesitate to contact me by email if you have any questions or need to clarify any of the details.

Thanks again for participating. I hope you enjoy it.

Kind regards
Sinead
8.9 Appendix 9: Guiding Questions for Interviews

1. Which aspects of the workshop were important for you? Why?
2. Which aspects of the workshop have you been able to use in your teaching practice? How have you used them?
3. Have you changed your teaching practice since the workshop? In what way? What influenced that decision to change?
4. Have you received any feedback from your students after the change?
5. How would you like to change your teaching practice in the future? What has influenced that decision?
6. What things would help you make that change?
7. What things would hinder or stop you making the change?
8. What support would you like as you continue on the medical education journey?
9. Where do you see yourself in 5 years?
# 8.10 Appendix 10: Lesson Plan Template

<table>
<thead>
<tr>
<th>Topic</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aims / Objectives</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Outcomes SMART</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Learning Activities</strong></td>
<td><strong>Time/Resources</strong></td>
</tr>
<tr>
<td><strong>Intro</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Body</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td></td>
</tr>
</tbody>
</table>
8.11 Appendix 11: Student Participation Information Form and Consent Form

Information Form for Students

Project title: How do Fijian Clinicians translate lessons learned in medical education workshops to their workplace?

Name of Researchers: Sinead Katherine Kado (Masters student)
Gabrielle Brand (Supervisor – Health Professions Education Unit – UWA)
Iris Lindeman (Supervisor – Faculty of Medicine – Flinders University)

Invitation:
During the next teaching term some teaching sessions will be video recorded to gain a better understanding of teaching practices by clinicians. This is part of an approved research project. You may be included in the video as part of the teaching process.

Aims of the Study - What is the project about?
This research hopes to gain a better understanding of how knowledge gained in medical education workshops is being translated into clinical teaching practice. The findings will help to improve medical education development strategies to improve teaching and learning in low-resource settings.

The aims of this research are:

4. To explore how Fijian clinicians use knowledge gained in medical education workshops in Fiji, in their daily clinical teaching practice.
5. To add to the gap in the current literature on ‘why’ and ‘how’ clinicians use workshops to change their teaching practice.
6. To identify successful clinical teacher development strategies that could be applied in other low medical education resource settings like Fiji.

Voluntary Participation
Participation in the video is completely voluntary and you may decide that you would not like to be in the video. If you do not want to be filmed, please let the teacher or researcher know and you will not be included in the frame of the film. You will still be able to attend the class, but you will not appear in the video.

In addition, there will be no consequences on your academic progress or grades by being part of the video or not.
Your privacy

Your privacy is of utmost importance therefore the following measures will be taken to ensure the information you provide remains confidential.

4. Findings from this research will be published but you will not be identified in any part.

5. The video data will be kept in a secure password protected server for a minimum of seven years.

Possible Risks and Risk Management Plan

If during the video or afterwards you identify any learning issues you will be given the opportunity to discuss the issues with an academic counselor.

Contacts

If you would like to discuss any aspect of this study, please feel free to contact Gabrielle Brand by email: gabrielle.brand@uwa.edu.au

Yours Sincerely,
Gabrielle Brand
Chief Investigator
Email: gabrielle.brand@uwa.edu.au

Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time. In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Ethics office at UWA on (08) 6488 4703 or by emailing to humanethics@uwa.edu.au. All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project.
Participant Consent Form
For Students

How do Fijian Clinicians translate lessons learned in medical education workshops to their workplace?

Thank you for volunteering to take part in this research project about how clinicians use lessons learned from medical education workshops in practice.

I, _______________________________________________________________ (full name) have read the information provided and any questions I have asked have been answered to my satisfaction. I agree to participate in this research project, realizing that I may withdraw at any time without reason and without prejudice.

I understand that all identifiable information that I provide is treated as confidential and will not be released by the investigator in any form that may identify me. The only exception to this principle of confidentiality is if this information is required by law to be released.

I agree that the data collected may be published whilst ensuring that I will not be identified in any way.

I agree to being videotaped. Yes ☐ No ☐

Participant signature ___________________ Date ________________

Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Ethics Office at the University of Western Australia on (08) 6488 3703 or by emailing to humanethics@uwa.edu.au.

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project.
## 8.12 Appendix 12: Summary of Themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Change of Practice Reported – Interviews and journals</th>
<th>Change of Practice Observed</th>
<th>Barriers to change</th>
<th>Enablers for change</th>
<th>Future</th>
<th>Anecdotal / reported</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change of Practice Reported – Interviews and journals</td>
<td>Change of Practice Observed</td>
<td>Barriers to change</td>
<td>Enablers for change</td>
<td>Future</td>
<td>Anecdotal / reported</td>
</tr>
<tr>
<td>Theme</td>
<td>Changing learning and teaching philosophy</td>
<td>Active learning</td>
<td>Innovative learning</td>
<td>Active</td>
<td>Innovative</td>
<td>Time</td>
</tr>
<tr>
<td>Clive</td>
<td>Minimal</td>
<td>Debate</td>
<td>Stacked</td>
<td>Questions</td>
<td>Discussion</td>
<td>Google discussion</td>
</tr>
<tr>
<td>Pretty</td>
<td>Increased reflection on role as teacher and being more student-centred</td>
<td>VARK Question – answer Summaries</td>
<td>Student becoming teacher in clinical skills</td>
<td>session; Dancing for myotomes</td>
<td>Questions</td>
<td>Demonstrati</td>
</tr>
<tr>
<td>Theme/Clinician</td>
<td>Change of Practice Reported – Interviews and journals</td>
<td>Change of Practice Observed</td>
<td>Barriers to change</td>
<td>Enablers for change</td>
<td>Future</td>
<td>Anecdotal/ reported</td>
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</tr>
<tr>
<td><strong>Alice</strong></td>
<td>More student-centred</td>
<td>Buzz groups Questions Powerpoint</td>
<td>Share lesson plan with students Give trigger prior</td>
<td>Discussion groups Presentation Questions Sometimes students bored</td>
<td>Trigger given before tutorial</td>
<td>So much to do Shortened semester</td>
</tr>
<tr>
<td><strong>Warren</strong></td>
<td>Insight to change in attitude Student-centred Great clinician does not = great teacher</td>
<td>Questions Discussion Practice Feedback</td>
<td>Peer education in medical education principles Introduction, asks questions Observes and gives feedback Summaries</td>
<td>Not an issue in Lautoka</td>
<td>Good</td>
<td>Respected University supporting workshops</td>
</tr>
<tr>
<td><strong>John</strong></td>
<td>More flexible, student-centred, realises different learners</td>
<td>Questions Give breaks Intro, Body, Summary</td>
<td>Collaborate with NZ Med school Used OMP as basis for teaching</td>
<td>Shortened teaching time, many responsibilitiesIncreased numbers of students</td>
<td>Lack of teaching space, few expert staff, no support for regional students</td>
<td>Collaborate with Australasian University Support for the region</td>
</tr>
<tr>
<td>Theme Clinician</td>
<td>Change of Practice Reported – Interviews and journals</td>
<td>Change of Practice Observed</td>
<td>Barriers to change</td>
<td>Enablers for change</td>
<td>Future</td>
<td>Anecdotal / reported</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------------------</td>
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</tr>
<tr>
<td>Jenny</td>
<td>To encourage more active learning through planned teaching and feedback</td>
<td>Active learning</td>
<td>Innovative</td>
<td>Time</td>
<td>Work conditions</td>
<td>Current</td>
</tr>
<tr>
<td>Alex</td>
<td>Wanting to learn more to help students learn better Reflection on tutorials</td>
<td>VARK Discussion Lesson plans Scaffolds Assessment Feedback Reflection</td>
<td>Exploring new approaches to feedback Give students the 12 tips on being a good student Review of prior knowledge Discussion groups Questions Set up of classroom Feedback</td>
<td>A new problem to solve using concepts learnt Time to short because class has to be divided in two because too many students Many responsibilities</td>
<td>Learning environmen t...noisy, crowded Teaching spaces</td>
<td>Peer support</td>
</tr>
<tr>
<td>Theme Clinician</td>
<td>Change of Practice Reported – Interviews and journals</td>
<td>Change of Practice Observed</td>
<td>Barriers to change</td>
<td>Enablers for change</td>
<td>Future</td>
<td>Anecdotal / reported</td>
</tr>
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</tr>
<tr>
<td>Arthur</td>
<td>Active learning and teaching philosophy</td>
<td>Innovative</td>
<td>Time</td>
<td>Current</td>
<td>Future</td>
<td>Faculty development</td>
</tr>
<tr>
<td></td>
<td>Moving from didactic and passive to student-centred and active. Before during &amp; after and aligning</td>
<td>Innovative</td>
<td>Work conditions</td>
<td>Bloom’s in UASR from HOD</td>
<td>Flexible learning CME on ME</td>
<td>Feedback from students</td>
</tr>
<tr>
<td></td>
<td>Buzz groups Discussion Questions Pre-reading Peyton’s 4 step method Scaffoldin g teaching cycle…plan-do-assess-review Feedback</td>
<td>Check prior knowledge thru questions introduction , Peyton’s 4 step method modified Peer feedback at end.</td>
<td>Not enough time to do formal medical education Too many students</td>
<td>Not enough teaching space, crowded Senior clinicians resistant to change Not enough staff, broken simulation equipment</td>
<td>Workshops for honorarium staff Incorporate in train the trainer ‘Tips’ on med ed for busy clinicians</td>
<td>Students have asked for more simulation based training No formal feedback</td>
</tr>
<tr>
<td>Julie</td>
<td>Minimal</td>
<td>No</td>
<td>Discussions Questions</td>
<td>University processes, Few staff</td>
<td>Learning environme nt</td>
<td>Not mentioned</td>
</tr>
<tr>
<td></td>
<td>Not mentioned</td>
<td>No</td>
<td>No Discussions Questions</td>
<td>University processes, Few staff</td>
<td>Learning environment</td>
<td>Not looking for it…but thinks she should</td>
</tr>
</tbody>
</table>
8.13 Appendix 13: Peer Observation of Teaching Form.

Peer Observation of Teaching Form

**TEACHING SESSION:**

**Pseudo Name:**

<table>
<thead>
<tr>
<th>Observation criteria</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organisation:</strong> Intro, body, conclusion.</td>
<td></td>
</tr>
<tr>
<td>Written learning plan followed during class, if not why?</td>
<td></td>
</tr>
<tr>
<td><strong>Content:</strong> Teacher explains the relevance</td>
<td></td>
</tr>
<tr>
<td>of the activity to their learners; there is a</td>
<td></td>
</tr>
<tr>
<td>clear learning objective or outcome; content</td>
<td></td>
</tr>
<tr>
<td>appropriate and stimulating.</td>
<td></td>
</tr>
<tr>
<td><strong>Communication:</strong> The teacher communicates</td>
<td></td>
</tr>
<tr>
<td>clearly without jargon; uses examples</td>
<td></td>
</tr>
<tr>
<td><strong>Student-centred:</strong> The learners understand</td>
<td></td>
</tr>
<tr>
<td>the teacher's explanation and activity;</td>
<td></td>
</tr>
<tr>
<td>given an opportunity to ask questions.</td>
<td></td>
</tr>
<tr>
<td><strong>Active learning:</strong> The learners are given</td>
<td></td>
</tr>
<tr>
<td>the opportunity to practice the skill/task or</td>
<td></td>
</tr>
<tr>
<td>reinforce new knowledge</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment:</strong> The teacher has clear criteria</td>
<td></td>
</tr>
<tr>
<td>to assess the competency of the learner in</td>
<td></td>
</tr>
<tr>
<td>the new skill/task; asks questions.</td>
<td></td>
</tr>
<tr>
<td><strong>Feedback:</strong> The teacher provides some</td>
<td></td>
</tr>
<tr>
<td>feedback to the students using a recognized</td>
<td></td>
</tr>
<tr>
<td>technique.</td>
<td></td>
</tr>
</tbody>
</table>

**Other Observations**