



The Journal of Samoan Studies

Volume 11 No. 2 2021

Special Issue

Faculty of Education
National University of Samoa

The Teaching and Learning Nexus in Secondary School Chemistry Classes in Samoa

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Abstract

This paper reports on subsequent explorations of the findings of a recent study, which investigated the teaching and learning nexus in secondary schools' chemistry classes in Samoa. In particular, the report explores barriers and support factors that affect achievements in Year 12 chemistry. The exploration utilises classroom observations, archival records, work samples and semi-structured interviews, in order to investigate both students and teachers' perceptions of barriers and successes to the students' achievements. The aim of the paper is to stimulate educators and policy makers to become aware of the relatively large number of factors, which contribute to students' achievement in Year 12 chemistry in Samoa secondary school classrooms. The research also aimed to support the Samoa Development Strategy 2016/17–2019/20 (SDS), in relation to improving access to and quality of education. The examination of the data suggests that barriers include teaching and learning expectations, motivating factors, classroom teaching practices, and learning styles.

Keywords: Science Education, Teaching Chemistry, Contextual learning, Learning expectations

Introduction

Low achievement by Samoan students in science and maths has become a national concern. Having spent a number of years teaching secondary school chemistry in Samoa, the researcher realised that many Year 12 chemistry students find learning chemistry to be problematic and they struggle with applying the principles of chemistry to everyday situations. Some students fail to recognise any relationship between the chemistry taught in class and their surroundings and therefore, they do not perceive any value or relevance in studying chemistry —other than to pass exams. In Samoa, students' achievement level in chemistry is a concern. In addition, there has been a decrease in the number of students opting for science or chemistry at the higher levels. As a result the following questions can be asked: *What is going on in the classroom? Why, after so many years of teaching the same curriculum, students' learning of chemistry is still problematic?* These are two of the questions that guided this research paper.

This paper reports subsequent explorations of the findings from a recent research investigation that was conducted in Samoa secondary schools. The investigation was conducted in three government co-educational secondary schools; one located in a rural area and two located in the urban regions of Upolu, which is the most populated island of Samoa. Each of the three schools provided a case study of the schools' chemistry classroom. In each case, five chemistry students and one chemistry teacher were invited to participate. The teaching and learning of one of the units in the organic chemistry strand (on hydrocarbons) was investigated. The central aim of the investigation was to understand the teaching and learning processes found in Year 12 chemistry classrooms. The primary focus was to explore the nature of factors that contribute to achievements — including both barriers and support.

This paper is divided into three sections. The first section offers a brief outline of the background to the research investigation. It discusses a brief description of how the Samoa Development

Strategy 2016/17—2019/20 (SDS), in relation to education, is focused on improving the quality of life for all Samoans, thus ensuring that sustainable and societal progress is reflected in classroom interactions and achievements at secondary school levels. Subsequently, there is a brief description of the methods used for the data collection. The following section begins with an outline of the three themes, which are supported by the relevant literature. The final section is a summary of this presentation and several future directions for this project are suggested.

The Research

Background to the study

Education is central to the future well-being of Samoa. It teaches young people the virtue of reason and it plays a large role in maintaining and developing the cultural fabric of society. Education develops in students the skills and attitudes needed to succeed in an ever-changing world. Today, that role is expanding since education will not only continue to shape the nation's cultural future: it is also central to the nation's economic and social well-being.

Internationally, over a time span of more than 30 years, students have studied basic chemistry as part of their science curricula (Taber, 1995; 2015). However, despite the regular teaching and re-teaching of these concepts and the use of projects and external assistance, research on students in New Zealand and Samoa has shown that more than fifty percent of students, in their final year (Year 13) at high school, maintained misconceptions (Suaalii, 2007; 2013), which led to a constant rating of 'low level of achievement' (Government of Samoa, 2007, p. 147). To explain this phenomenon an in-depth understanding of the nature of the classroom interactions and experiences of both teachers and students (St. George & Bourke, 2008) is needed?.

A literature review shows that there has been a real concern about the conceptual understanding of chemistry in secondary school students (Johnstone, 2000; Taber & Coll, 2002; Suaalii, 2013). The findings from these researchers show that more authentic and meaningful learning takes place, when the learning is contextual and made more relevant to the students' own life (Bhattacharya, 2004; Suaalii, 2013). A study by Bhattacharya and Richards (2000) suggests that teachers need to become reflective thinkers and compliant with various effective teaching and learning tools, in order to engage students within collaborative and interactive learning environments. These strategies can improve the quality of students' learning, thus making their learning contextual, which will then result in an improvement in their academic achievement. However, the teaching and learning of chemistry in classrooms today appears to focus mainly on helping students to pass exams.

Development of Samoa's Education System

Over the past 20 years Samoa's education system has been reformed; changing from a selective system in which only the highest achieving students progressed beyond Year 10 to an open system in which 13 years of education are provided by all Samoa's government secondary colleges. The Samoa Development Strategy (SDS) 2016/17—2019/20, in relation to education, is an integral part of the government's overall economic strategy, with its focus on "improving the quality of life for all Samoans and boosting productivity for sustainable development" (Ministry of Finance Economic Policy and Planning Division, 2016, p. 17). Thus, the Samoan government has acknowledged the vital role of education in achieving its vision (Government of Samoa, 2006). New school improvement

programmes have been developed to reinforce the four goals of Samoa education, which encourage (i) the development of comprehensive and enriching curricula; (ii) the development of active, interactive and creative pedagogies; (iii) the development of impartial evaluation and assessment methods; and (iv) support for individuals and society, through a humane education system (Dr. Taufe'ulungaki & Nako, 2005; Western Samoa, 1995).

The four goals were, in turn, addressed through four key principles: (i) *equity*, which requires the fair treatment of all individuals, in the provision of educational opportunities; (ii) *relevancy*, which is defined through a system which is meaningful, recognisable, applicable and useful; (iii) *efficiency*, which is demonstrated through management practices that ensure optimum use of resources, efficient services delivery, effective communication and co-ordinated decision-making; and (iv) *quality* (Government of Samoa, 2006, 2018; Ministry of Finance Economic Policy and Planning Division, 2008). Quality refers to the demonstration of high standards of academic achievement, with results coming from a complex interplay of professional and technical factors and social and cultural practices (Government of Samoa, 2006, 2018; Thaman, 1988, 2001). Students' achievement refers to the level of intellectual growth which a student has attained whilst being involved in the learning process.

Despite these praiseworthy national objectives, the review of the accomplishments of the first 10 years of educational policies and strategic plans (1995-2005), by the Pacific Regional Initiative for the Delivery of Basic Education (PRIDE), identified many deficiencies in the area of educational quality (Government of Samoa, 2000). These included a relatively high student 'dropout' (Government of Samoa, 2006) and 'repeaters' in Year 8 (Government of Samoa, 2000). There was also a high demand for comprehensive teacher development (McMurray, 2006) and the implementation of a quality improvement programme (Government of Samoa, 1995, 2000, 2006, 2018). Students' achievement in science subjects and mathematics has continued to be a concern for a number of years (Government of Samoa, 2000, 2006), at both primary and secondary school levels. In 2007, the GOS urged MESC to "find the cause(s) of students' low achievement levels" (Government of Samoa, 2007, p. 21).

Recent reforms to the secondary school system in Samoa included an implementation of a four (4) year level (Years 9, 10, 11, 12) instead of 5 as in the past 20 years (Ministry of Education, Sports and Culture, 2021). The expectation from such development was mainly to reduce the "growing rate of early school leavers" (Ministry of Education, Sports and Culture, 2021, pg. 1) as well as improving learning pathways. Basically, the students will be streamed into four (4) learning pathways including Commerce, Arts, Technical and Vocational Education and Training (TVET) and, Science based on their strengths and interests (Ministry of Education, Sports and Culture, 2021).

Methods used in the study

The data collection techniques included archival records and work samples from student participants, classroom observations and semi-structured interviews, for all participants. Fifteen Year 12 chemistry students and three chemistry teachers participated in this study. The sequence of data collection in Table 1 below indicates that the first three methods were overlapping: this ensured the completion of data collection before the semi-structured interviews were conducted. This also ensured that the information gained from the first three methods was collected and further explored in the semi-structured interviews, which were flexible in nature.

Table 1: Sequence and duration of data collection

Method of data collection	Sequence and duration of events									
	Week	1	2	3	4	5	6	7	8	9
Collecting archival records										
Classroom observation										
Collecting work samples										
Semi-structured interviews										

Findings and the Literature

The examination of the data suggests that the most important factors are (i) teaching and learning expectations, (ii) motivating factors and classroom practice, and (iii) teaching and learning styles. These three findings are discussed in detail below in relation to literature on the issues identified.

Finding 1: Teaching and Learning Expectations

Some of the student participants were not reaching their potential because their teachers' expectations were low, which led to difficulties in understanding scientific concepts. The students were unable to perceive any connection between scientific concepts and the usefulness of what was being taught in the classroom. The teachers' expectations of their students' achievement were often based on beliefs about the students' ability (Zheng, 2016). For instance, teachers felt 'insecure' about students who had scored very low in previous unit tests: and they believed that they would not be able to cope with the school certificate examination at the end of the year.

Classroom observations confirmed that these students appeared to remain quiet during discussions and only became active when copying notes from the board. Passive and rote learning was evident amongst these students in these classes, despite the fact that the teachers continued to provide explanations and relevant procedures, to help them answer examination questions. Some of the student participants in this study, however, were very confident and they felt that the teaching of chemistry was fair, appropriate and challenging, as they prepared for their school certificate examination. These particular students, whose interest had been captured, participated and posed questions during class discussions and they were often given opportunities to respond.

What the Literature says about Teaching and Learning Expectations

This finding has been widely studied by educationalists. Teacher expectations are seen as a significant determinant of students' achievement (Crawford, 2007; McKinley, 2007; Zheng, 2016). In addition, Koballa and Glyn (2007) confirmed that teachers' expectations can influence students' performance in science and other areas. The significance between teacher expectations and student achievement is viewed as both a reason and a solution to the achievement gap (Darling-Hammond, 2000; Gay, 2000). Teacher expectations reflect teacher beliefs and together this influences what the teacher attempts to elicit from the students — and what the students expect of themselves (Brophy, 2000; Gay, 2000; Zheng, 2016).

Science teachers' expectations of students (and the strategies they use that are based on these expectations) play an important role in increasing or reducing students' motivation to learn (Bircan, & Sungur, 2016). Researchers have found that teachers, who have high expectations of students, give cues and prompts that communicate to them their belief that the students can perform well (Good & Brophy, 2003; Rob, 2003; Rubie-Davies, 2006; Zheng, 2016). Furthermore, teachers who have high expectations of students are less likely to accept poor answers from them (Koballa & Glynn, 2007; Zheng, 2016). In addition, students who are perceived by their teachers to be high-ability learners more frequently receive positive non-verbal feedback from teachers, such as smiling and eye contact (Vishnumolakala, Southam, Treagust, Mocerino, & Qureshi, 2017).

Good and Brophy (2003, 2008) suggested that teachers with low expectations of students are more likely to provide them with inconsistent feedback, sometimes praising inadequate answers, sometimes criticising them and sometime ignoring them. In many cases, those students who are believed to be low-ability learners are asked fewer and less challenging questions: they also receive less feedback and they have less time to respond and less praise. Across a set of studies, Seiler, Tobin and Sokolic (2001, 2003) and Tobin, Seiler and Walls (1999) outlined how normal practices of schooling, such as tracking, teaching to the test, rote learning, drill-and-practice activities and curricula (geared towards minimal achievement) led to a culture of low expectations in science for students. Students exposed to these low expectations were complicit in reproducing the culture of low expectations by engaging in multiple forms of resistance to high expectations of their learning from their teacher, such as skipping class and other behaviours, even when the science instruction was being led by a competent, experienced and caring teacher (Griffard & Wandersee, 1999).

Students are sensitive to teachers' beliefs about them. In cultures where low achievement is attributed to low ability (and ability is believed to be unalterable), low-ability students often come to believe that their performance will not change, regardless of their level of effort (Cruickshank, Jenkins, & Metcalf, 2006). In cultures where the students' level of work and effort is considered to be directly related to their learning, high expectations for all students lead to higher achievement, through more work and effort by students of all abilities (Carin, Bass, & Contant, 2005). This however, requires science teachers to be more effective and to use strategies to set and maintain high expectations. Staver (2007, p. 19) discussed some of these strategies:

- monitoring and analysing students' work and taking corrective individual and group action as needed;
- helping students believe in their ability to learn effectively and raising their awareness of positive outcomes as a result;
- helping students to view themselves as capable learners;
- building learners' confidence by breaking difficult tasks into smaller steps that can be viewed as more manageable and achievable;
- providing assistance but not doing the tasks for the students;
- giving learners a reasonable level of control over their learning ;
- helping learners become aware that their own efforts, strategies and persistence, are important to their successful learning; and
- helping learners to experience the satisfaction of successful learning.

Finding 2: Motivating Factors and Classroom Practice

A lack of motivation to engage with the subject was observed. Some students seemed naturally enthusiastic about learning, but many appeared to need (or expect) their instructors to inspire, challenge, and stimulate them. As Ericksen, (1978, p. 3) pointed out: “Effective learning in the classroom depends on the teacher’s ability ... to maintain the interest that brought students to the course in the first place”. The challenge is to develop motivation among students because whatever level of motivation students bring to the classroom, may be transformed — for better or worse — by what happens in that classroom. As Bircan, & Sungur (2016) found, motivation is one of the most important impulsive power sources, which gives some guidance to the behaviour of students in determining behaviours and strengths and stability in learning.

Although Samoan students behave in a manner that is culturally respectful within the classroom, there was no indication that learning was associated with such behaviour. In this study, it was determined that this impulsive power source was deficient in all three cases. In each case the teacher gave instructions for almost everything the students have to do in class. For instance, when the students had completed their copying of notes, the teacher would then ask them to work on an activity/task. This was often followed by more instructions from the teachers on what activity they could do in class or at home. The students, in these case studies, said they thought it was best to wait for instructions, because they often get scolded by the teacher if they do things on their own. Although I did not see students being scolded during the investigation, the teacher did constantly give instruction after instruction, which appeared to be a traditional practice in these classrooms.

Unfortunately, there is no single magical formula for motivating students. Many factors affect a given student's motivation to work and to learn (Sass, 1989) including interest in the subject matter; a perception of its usefulness; a general desire to achieve; self-confidence and self-esteem; and patience and persistence. In addition, of course, not all students are motivated by the same values, needs, desires, or wants. Some of students will be motivated by the approval of others and some by overcoming challenges.

What the Literature says about Motivating Factors and Classroom Practice

Teacher motivation is an equally important factor. Teachers do make a difference to the motivation of students in relation to learning. Teachers can make school life miserable for their students or alternatively, they can make it appealing, by filling their classroom with excitement and hope. In the latter situation, students will be interested in learning and search for even more knowledge, under the guidance of enthusiastic teachers (Wlodkowski & Jaynes, 1990). Such teachers care about what they teach and they communicate this to their students, so that the students understand that the knowledge they are gaining is important for further studies and job applications. These students are motivated to learn, since they keep in close touch with their teachers, in relation to topics discussed in the classroom.

Students’ perceptions of the importance of achieving science competence are related to students’ motivation to learn and to their future aspirations: and ultimately their achievement in science subjects (Bircan & Sungur, 2016). For instance, Lau and Roeser (2002) found that, although cognitive ability was the strongest predictor of high school students’ performance in science achievement tests, students’ perceptions about the value of science competence was a significant predictor of engagement, achievement and future aspirations (Bircan & Sungur, 2016). Specifically,

this factor predicted students' test and classroom engagement and achievement, as measured by science tests and classroom grades and students' anticipated pursuit of science-related college majors and careers.

Given that a student's future academic and career aspirations influenced their motivation, and achievement, it is important for science educators to develop a more complete understanding of student beliefs and perceptions. For instance, most children begin school with a positive attitude: they are enthusiastic about learning and participating in classroom activities. They are optimistic about their abilities and they anticipate success and view their expanding efforts and practice as the key to overcoming difficulties (Freedman-Doan, et al., 2000). Such attitudes and beliefs are integral to their classroom achievement and are associated with subsequent motivation, concurrent and future achievement and decisions to continue learning particular subjects (Marsh & Craven, 2006). When students lose self-belief it affects their motivation Peer-groups may also influence the learning motivation amongst students. A student with a close group of classmates, who like to study, will eventually join in the class discussions. On the other hand, a student whose closest friends often 'skip' classes are likely to feel peer group pressure to behave the same way. Students who feel 'cool and smart' by hanging out with their peer group, rather than following the advice of their elders, are often the victims of others with a closed mind set.

Finding 3: Teaching and Learning Styles found in the Classrooms

The case studies found that the different learning styles of the chemistry students were not acknowledged by their teachers. It was obvious that the teaching and learning styles used within the classrooms appeared to be contradicting with the students' preferred learning styles. In all of the lessons observed, lecturing style of teaching was used by all teachers. The teachers showed great confidence in the ways they presented the lessons while the students sat quietly and stared at the front of the classroom. Basically, the teachers began the chemistry lessons by standing in front of the classroom and verbally presented explanations and demonstrations of the focus of the lessons using diagrams and models of scientific concepts, whilst the students sat and listened. Sometimes the lessons began with students copying notes into their note books from either hand-outs or textbooks before any further teaching was offered. When asked about these kinds of teaching and learning styles, the students claimed that they did not acquire much meaning from those lessons but rather tiring of copying huge amount of notes as well as feeling sleepy as the teachers talked for so long. The teaching and learning styles reflected teacher-centered approach which emphasised the teachers' ways of doing things in the classroom rather than the students. However, these students expected chemistry lessons to be more practical oriented where they get to touch, observe and actively discuss scientific ideas.

Discussions with the teacher participants focused on their teaching and learning styles as well as their understanding of the students' learning experience. The teachers acknowledged the importance of students' activities, experiments and group tasks; however they were more concerned with the limited time they had to complete the syllabus before the national examinations. Basically, the teachers' priority was to ensure full coverage of the chemistry curriculum through the use of lecturing style of teaching, which they referred to as the simplest and quickest method. In this sense, it appeared that the teachers' selection of this teaching and learning style was basically to ensure that the scientific ideas were presented to the students to regurgitate for exams.

Although there seemed to be a conflict in terms of styles of teaching (by teacher) and learning (students), the case studies revealed that the dominant culture within these chemistry classrooms was that of the teacher. Such culture promoted passive learning (students), lectured style of delivery (teacher) and the continuous exploitation of teacher-centred approach (classroom practice).

What the Literature Says About Teaching and Learning Styles

Research findings have shown that learning styles differ significantly and therefore in the academic achievement of students. Samoan students, in particular, also have different learning styles and their approaches to learning are often a reflection of their family's influence. For example, Anae's study of Samoan students in New Zealand (1998, 2010) noted that some Samoan families encouraged cultural practices in which a child or teenager was given information to be learned and remembered, not questioned or discussed. This approach taught Samoan students to learn as individuals and therefore, they chose not to partake in group tasks and activities which required discussion. This finding shows that educators need to be aware that Samoan children may need time, effort and special encouragement to learn the more student-centred methods that result in deeper understandings.

Students' learning style preferences refer to the ways in which they respond to learning stimuli and to their characteristic ways of acquiring and using information (Sloan, Daabe, & Giesen, 2002). Learning styles recognise not only that individuals learn in different ways, but also that individual characteristics (such as personality) influence learning (Dunn & Dunn, 1991; Harris, & Smith, 2017). It is argued that students' learning styles differ (Entwistle, 1987, 2000; Richardson, 1990; Harris, & Smith, 2017). This recognition is in line with constructivist notions of learning (Bodner, 1986), which recognise that factors, such as learning styles and prior knowledge may (for example) influence judgements on the importance of information presented and it may also influence the interpretation given to that information (Bailey & Garrat, 2002; Kelly & Sezen, 2010). Furthermore, constructivists believe "that meaningful learning is a cognitive process in which individuals make sense of the world in relation to the knowledge which they already have constructed, and this sense-making process involves active negotiation and consensus building" (Fraser, 1998, p. 13). In addition, it is sometimes claimed that knowledge of learning styles and the use of educational resources (Kelly & Sezen, 2010), which are relevant to learning styles, will lead to efficient learning (Gadzella, Stephens, & Baloglu, 2002) and an increase in the motivation to learn (Moore, Grabsch, & Rotter, 2010; Nolen, 2003; Stipek, 1998; Bircan & Sungur, 2016).

Irrespective of a student's learning style, the teacher has a significant influence on the student's learning experience (Ministry of Education Sports and Culture, 2006). It is a fact that teachers are most helpful when they help their students to learn in a way that suits the student's style preference (Allen, 2002; Dunn & Dunn, 1991). However, the question is whether adapting a teaching style to the learning style of each student will result in improved academic achievement in chemistry or science? A large amount of research has been focused on the effect of matching and mismatching teaching and learning styles (Mugler & Landbeck, 1997; Uzuntiryaki, 2007; Harris, & Smith, 2017). Different approaches have been suggested, including matching instructional methods (Suaalii & Bhattacharya, 2007), media and assessment to learner preferences and tendencies; mismatching styles in order for the learner to develop a broader approach to learning (Sadler-Smith & Riding, 1999); providing the initial contact with the material in the learner's preferred mode and then moving to broader

exposure with subsequent material (Reinert, 1976); or teaching to all styles (Felder, 1991; Felder & Brent, 1999).

There is still a general lack of creativity in teaching approaches in Samoan schools, despite a significant number of professional development programmes, which have been conducted over the years. In addition, the Samoan Curriculum recognises that, for students to succeed, curriculum experiences must relate to student interests, needs and learning styles, in order to engage students in their learning (Ministry of Education Sports and Culture, 2006). More group activities are needed, which allow students to personally experience scientific ideas within a wide variety of contexts. Students need to be encouraged to share ideas openly with one another. In this way, students will engage in a variety of strategies and learning styles.

However, most teachers still dominate the teaching and learning process and, as a result, the students' various learning styles are not well catered for within education services in general, or science classrooms in particular (Government of Samoa, 2006). This finding is consistent with other research on effective teaching, which suggests that effective teachers adjust their teaching to fit the needs of different students and the demands of different instructional goals, topics and methods (Darling-Hammond, 1999).

Summary

This study of science teaching has provided some useful information on the teaching and learning of chemistry in Samoa secondary schools. It demonstrates the foundations for some of the factors (particularly within the classroom) that affect students' learning of chemistry in Samoa. The discussion of findings in this paper demonstrates that, above and beyond the differences in student characteristics, students' achievements in chemistry and science were positively linked with the support of their teachers.

It demonstrated that teachers must embrace the evidence that effective teaching means constantly being aware of, and attending to, their students' struggles to learn chemistry. Teachers need to continually adjust their teaching strategies and techniques, in order to help their students work through any difficulties. In doing so, teachers should set high learning expectations and focus on core scientific ideas. In addition they should aim for a deep, integrated understanding of scientific inquiry and the core body of scientific knowledge. In order to help students reach their teachers' aims and expectations, the teachers must understand how learners actively construct new knowledge, in addition to an understanding of the complexity of the learning process, the importance of the students' interests and the student's potential anxieties and conflicts in relation to science concepts

The barriers and kinds of support needed to teach chemistry were identified in this study, that emphasise the need to look into the factors which cause these barriers across various secondary schools in Samoa. Although the Government of Samoa has put so much emphasis and funds towards the improvement of education in Samoa, there is evidence for an on-going concern about low achievements and high school drop-outs. Three case study classrooms in Samoa suggests that that notes can be handed out for students to study and revise, while classroom time could be more effectively used in teaching practices that engage students. There is a need to refocus efforts away from rote learning towards engagement with and demonstration of principles of chemistry, as well as other subjects in science and mathematics.

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Student Achievement and Extended Teaching Hours

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Abstract

The Ministry of Education, Sports and Culture (MESC) mandated extended teaching hours for schools in Samoa which had started at 8.00am to 12.30pm for Infant classes, 8.00am to 1.00pm for Primary classes (Years 4-8) and Secondary Schools and Colleges (Years 9-13) from 8.00am to 2.30pm. This came about after a survey conducted by the Policy, Planning and Research Division (PPRD) soliciting principals, teachers and parents views on the issue. The survey and its recommendations resulted in extending teaching hours. While the change was implemented in 2012 this has been debatable with teachers and parents either for or against the change. Four years after its implementation MESC requested staff from the Faculty of Education (FOE) to conduct research to find out teachers views and perspectives on extended teaching hours. The survey also took into consideration whether extended teaching hours played an important role in student achievement.

Keywords: extended teaching hours, student achievement, teacher perception, cognitive competence

Introduction

Over the last few decades attention has focused on extended teaching time as a measure to improve academic achievement. In Samoa this has come about as the MESC perceived a dire need to support teachers' instructional time in schools. Those who agreed mentioned learning and nonacademic positive implications for extending teaching time. Others have countered that extended time does not ensure more effective instruction takes place while costs was perceived as an important aspect that needed to be factored in. Globalization has impacted the world with advancements in all human development areas (Roco & Bainbridge 2013) which has had major influences in education systems worldwide.

As such school systems have reacted with inputting more subjects into the curriculum, introducing a gamut of innovative teaching skills and promoting capacity building in the use of newly introduced technologies to enhance and advance student learning (Avidov-Ungar & Eshet-Alkabay 2011; Halverson & Smith 2009). Education systems the world over have taken the initiative to extend teaching hours such as England, Australia, Indonesia, Italy, Germany and the USA. Although many studies have been conducted on the phenomenon there continues to be divisions in teachers and the public's perceptions on extending teaching hours.

Literature Review

(Patall et al., 2010) conducted an extensive review of the literature and their findings revealed the following on extending hours that: it would benefit most at risk students; there was a need for more deliberation on the appropriate use of time and consideration for policy and practice. Hincapie (2016: 21) suggested that longer school days have an impact on academic achievement. The author propounded, "I find that there is a positive impact of having a full school day (approximately 2-3 additional hours) on school achievement". Frazier and Morrison (1998) conducted a research to explore the influence of extending teaching days on academic and psychosocial skills where an extended

program was compared to a traditional one. Children in the two kindergartens were evenly matched in terms of their background, attendance, mathematics, reading and general knowledge. Both performed evenly at certain points of the investigation but those in the extended year outperformed traditional children in mathematics, reading, and general knowledge including higher levels of cognitive competence. This attests to more instructional time as supporting children's competencies and a progressive reform.

Jensen (2013) studied classroom hours on student achievement in literacy and math. Findings indicated there was no significant effect on literacy but there was for math. One probable reason provided for the difference was in relation to literacy development as part of the home environment more so than math. However, other studies (Eide & Showalter 1998; Grogger 1996; Lee & Barro 2001) do not show a correlation between extending school years and student achievement. According to Gandara (2000) "the relationship between allotted time and learning outcomes is relatively weak, but the relationship between time on task or academic learning time and learning outcomes is almost certainly greater." While there are researchers advocating for increased learning time on student achievement, there are others who view the different dimensions of time as complex such as time needed for learning (Carroll 1963).

(Aronson et al.1999) discussed the relationship between time and learning and provided fundamental findings from studies. They pointed out that there is little or no relationship between allocated time and student achievement. However they indicated that the relationship is between engaged time and achievement. In other words engaged could be seen as active involvement and participation by students in their own learning. It indicated the need for teachers to focus on the time that matters. As Aronson et al espoused there is no consistent relationship between the amount of time allocated for instruction and the amount of time students spend engaged in learning activities. Furthermore, although time is of essence, however, the authors concluded that time have minimal impact on student achievement.

Parinduri (2014) found the students' were less likely to repeat a class and there was a higher probability of positive student achievement in a longer year. (Fitzpatrick et al. 2011) and Hansen (2008) supported extending school days in light of improved student performance. Additionally, Cuban (2008) believed students in the US are no match for the international arena because they do not have longer school hours than their European and Asian counterparts.

Moreover, organizations complain about the time students spend in school because less teaching time could be inadequate to become competent in knowledge and skills required by a competitive society.

Interventions that provided more instructional time for lower achievers (Battistin & Meroni 2016) demonstrated that more time at school assisted student performance in mathematics, English and science. It indicated at risk students showed positive results from taking extra hours. Likewise, (Huebener et al., 2017) on education reform found students taught new content in the additional time showed improved achievement. On the other hand the effects are minimal and differ across the student population. "While low-performing students do not benefit, high-performing students benefit the most" (Huebener et al.). This was in contrast to Meyer and Van Klaveren (2013) that found no significant difference on math and language achievement. Dyson and Kerr (2014) provided an overview of extended hours on services at risk students and adults as being beneficial. Furthermore, the authors

pointed to the need to communicate extended hours clearly. It should not be merely seen as a means to respond to a deficiency. Rivkin and Schiman (2013:2) were in favour of extending teaching hours as improving achievement but they also pointed out some problems with the evidence. In their view any “causal link between achievement and instruction time depends upon the quality of instruction, the classroom environment and the rate at which students translate classroom time into added knowledge”. Results indicated that extending teaching hours highlighted differences in the quality of the classroom environments and for those in deprived classroom environments there was very little or no benefit at all. As such lengthening the time did not make up for the quality of the classroom. Alternatively, having strengthened policies, enriching classroom environments and extended instruction improvement would assist. Additionally, the studies showed a weak relationship between a longer time and the quality of instruction which would need further research.

An evaluation conducted by Bellei (2009) on increased teaching hours required large funding for improved school infrastructure and institutional changes. Lavy (2012) also reiterated that increase in instructional hours and allocated funding improved student performance. In other words, where extending school hours was seen as a way forward this has to be accompanied by funding and much needed resources. Fashola (1998) articulated extending teaching hours would provide for further use of time and resources which may not be quite as accessible during normal school hours such as face-to-face sessions, immediate access to computers and relevant teacher aid. Significantly, this would ensure parents, community support and various partners would be available after hours. Implementing and promoting after school activities may be time consuming and costly but this could be effective strategies to assist failing and at-risk students.

Notably some of the advantages of extended teaching hours would mean a reduction in long holidays and allowing teachers more time to plan, reduction in re-teaching after a long break and in some cases students suffer memory loss in learning after being away for a long time. Extending teaching hours could also be seen as support for student achievement (Parinduri 2014; Fitzpatrick et al. 2011; Huebener et al., 2017). However, there were also findings that showed no relationship or a significant one (Eide & Showalter 1998; Grogger 1996; Lee & Barro 2001).

Intervention time (Battistin & Meroni 2016) for disadvantaged children found no significant difference on math and language achievement (Meyer & Klaveren 2013). On the other hand, Huebener et al., (2017) reviewed policy on extending teaching hours Bellei (2009) and Lavy (2012) to prove that an increase teaching hours would require additional funding for improved student achievement. Rivkin and Schiman (2013) articulated that extending teaching hours need to with complemented by the quality of classroom environment.

Some studies have shown that longer instruction time can improve achievement, but results depended on things like classroom environment, quality of instruction, student prior knowledge and ability. This means that a longer day does not necessarily correlate with higher achievement. Without other factors in place, a longer school day is most likely not increasing student learning. In fact, countries such as Finland, Singapore and China that are regularly high achieving have not taken the longer day approach. Instead they maximize learning within the traditional schedule (Aronson et al 1999)

Research Design

A mixed-method using both qualitative and quantitative was utilised. Interviews of 15 teachers from primary and secondary schools were conducted and a survey questionnaire was distributed to 694 teachers of 76 primary and secondary schools. This approach was deemed to be relevant to the research to provide a “breadth and depth of understanding and corroboration” (Johnson et al. 2007: 123). Teachers in both urban and rural school of Upolu and Savaii were involved.

Teachers’ opinion and perception on extending teaching hours in schools in Samoa were solicited. It also targeted students’ achievement as reported by the teachers interviewed, teachers’ views of students’ performance due to the change and their perception of learning support in the classroom and other extracurricular activities. This was crucial as teachers’ knowledge and philosophical underpinnings on extending teaching hours affected the application and implementation of efficacious practice.

Analysis of the quantitative data included descriptive analysis and charts utilised MS Excel functions and pivot tables. On the other hand information garnered from the teachers’ interviews supplemented the survey. A mixed method approach addressed getting rich descriptions from interviews and the survey provided numerical data on the questionnaire. Both components played a complementary nature in elucidating the phenomenon. Integration of quantitative and qualitative was “needed to understand the case at hand” (Miles et al. 2014: 43).

Conducting this research was also an attempt to link extending school hours with student achievement. Merriam (1988: 19) suggested the “design is employed to gain in depth understanding of the situation and meaning for those involved.” Teachers’ practice, perspectives, experiences, values and beliefs in the school were critical. Their views consolidated understanding of how the phenomenon was perceived and its relationship to students’ academic achievement.

Interviews and Talanoa Method

The main form of data collection in qualitative research is interviews although often supported by field notes and documentation for triangulation (Hancock & Algozzine 2011; Robson 2011). In the Pacific the *talanoa* method which is similar to interviewing (Otsuka 2005; Vaioleti 2006) is widely used as a valid way of information gathering. *Talanoa* is culturally appropriate and embodies the experiences, values, beliefs, knowledge, and cultural mores of participants (Farrelly & Nabobo-Baba 2014). The interviewer set the pace of the questions but the participants’ articulation of their views provided the necessary data (Gall et al. 2007).

Talanoa method has limitations Otsuka (2005) especially when conducted in a way that significant dialogue was not forthcoming. Participants needed to be aware from the start of the purpose for the research. The socio-cultural situation can influence the interchange of information that transcend participants’ level in the hierarchical structure of seniority and position. In this way they felt free to tell their stories and provide their reality with ideas and examples to validate their experiences.

Survey Questionnaire

Dissemination of survey to 694 teachers was delivered and collected by MESC. Ten (10) likert-scale questions with options scale from 1 (Strongly Disagree) to 5 (Strongly Agree), with supplementary questions to be answered based on participants' responses on the primary questions.

Data Collection and Data Analysis

The data collected responded to the research questions that the research investigated focusing on extending teaching hours in relation to students' academic achievement. Results from the SPELL/PILNA Report 2016 for the primary schools enabled the researchers to select schools that contributed in assessing the phenomenon.

Quantitative analysis used data gleaned from the survey questionnaire to subsequently translate into tables, graphs and figures to demonstrate the mixed methods multidimensional approach to inquiry.

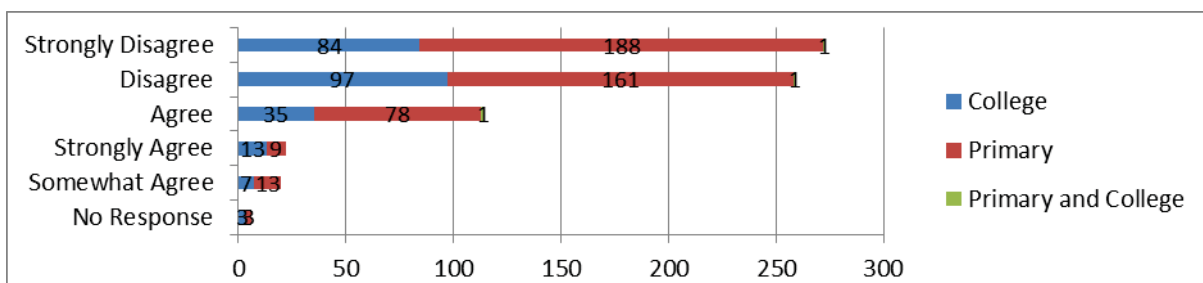
Qualitative data analysis gathered information from participants and categorized as emerging themes, concepts and patterns (Creswell 2007, 2013; Krueger & Casey 2009; Miles et al., 2014). Transcriptions of participants' experiences assisted in making connections. This step allowed code classification and categorizing of patterns and themes. Concepts from the transcribed interviews were categorized and subsequently subcategorized as themes. It sought meaningful patterns or themes that Corbin and Strauss (2015: 81) referred to as "integrating the concepts around a core category" to reveal the extent in which teachers perceived extending of teaching hours. Thus, making conjectures and connections from the data addressed the research questions. Raw data is simply raw data until the researcher synthesizes and integrates the themes into a holistic entity (Miles et al., 2014). (Moustakas 1994: 10) posited, "Reflective interpretation of the text is needed to achieve a fuller, more meaningful understanding." In this way qualitative analysis was used to complement quantitative data.

Findings and Analyses

These were examined under the Research Questions for ease of reference.

Question 1. What are Teachers' Perceptions and Understanding about Extended Teaching Hours?

Figure 1: Participants Level of Agreement with Perception on the Need to Extend Teaching Hours

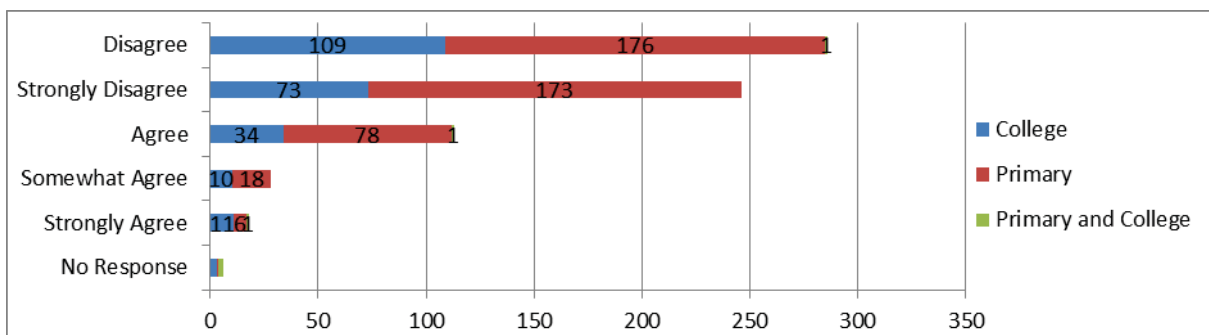


The results revealed that the majority of participants' *strongly disagree* (39.3%), followed by 37.3% of those that *disagree*.

In the interviews most teachers responded that extending teaching hours would not contribute to students' academic performance due to the following reasons tiredness, fatigue and lack of concentration during the last half of the day. A college teacher said *"I taught before the change and have been part of implementing the new school hours. However, students' academic performance has not undergone any major changes. Different strategies have not worked especially towards the end of the day as students lack concentration."* Another offered *"children are greatly affected after interval when they are tired, hot and not as receptive as in the morning."* One teacher who is also a parent pointed to the hardships that she also faced as a parent *"as a parent I do not support extending school hours. My kids have problems because in the afternoon they are lethargic, bored they cannot concentrate...there was enough time to teach in the past like the saying, short and sweet. I do not see any benefits in extending school hours as results continue to be the same."*

Question 2. What are Teachers Level of Perception on Extended Teaching Hours?

Figure 2: Participants Level of Perception on the Need to Extend Teaching Hours

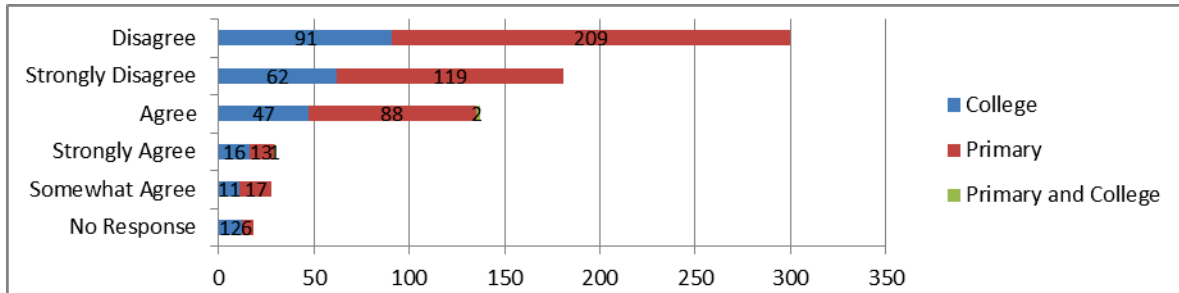


Findings indicated the majority of participants *disagree* (41.2%) followed by 35.5% of those that *strongly disagree*.

Teachers' classroom experiences with students were reflected in their perceptions and understanding of extending teaching hours. A small number highlighted the importance of extending teaching hours to improved learning especially in the area of literacy development. Nevertheless, the majority held the view that extended school hours seemed to provide more problems for teachers, students and parents as perceived in students' short concentration span, listlessness and general apathy in the afternoon. Teachers were also concerned about falling academic progress given the longer school hours. In the main, the teachers did not believe that extending teaching hours would improve student achievement.

Question 3. What are the Benefits for Students by Extending Teaching Hours?

Figure 3a: Participants Level of Perception on whether Extending Teaching Hours Benefitted Students Academically

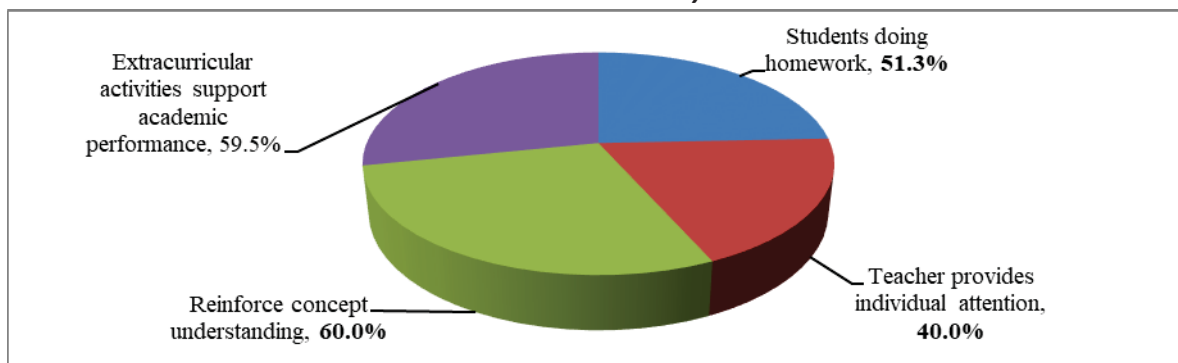


Participants indicated that extending teaching hours did not benefit students academically, while 26.1% strongly disagree. This means 69.3% of all participants expressed that extending teaching hours would not benefit students academically.

Teachers' expressed different views on the benefits of extending school hours. A few said there were minimal benefits or none. As one put it *"I don't think there are any major benefits. Exam results had not changed in the last 3 years."* Some responded positively that there were benefits and some improvement in student learning and teacher preparation as *"there is ample time to prepare work for the next day before going home.it provides more opportunity to scout around for resources and materials to assist with Mathematics teaching."*

Others pointed to the benefits of improving literacy skills as *"children now have time to read during the last hours of the day,"* and *"this change has assisted at risk students' improvement seen in reading, spelling and writing."* It was evident participants that agreed saw the benefits in teacher preparation such as resources and activities for class and at risk students were assisted with reading and writing skills.

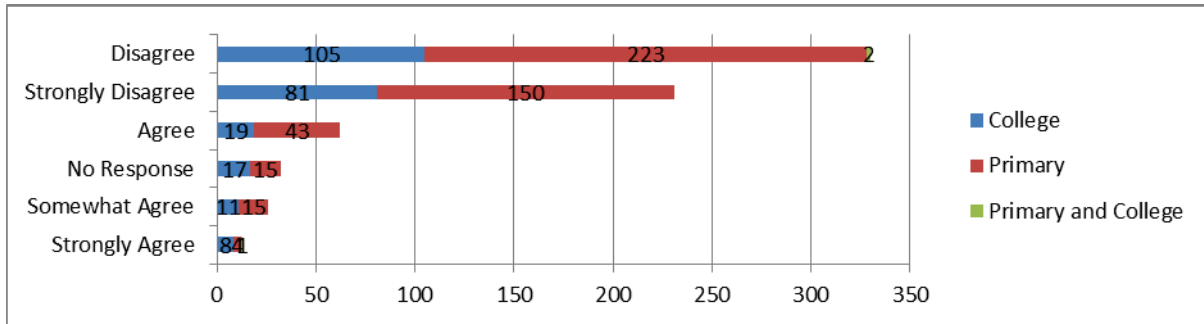
Figure 3b: Distribution of Responses from those that Agree Extending Teaching Hours have Benefitted Students Academically



This is follow-up from 3a of those that agreed (28%) at some level, indicating the distribution of responses with reinforcing concepts at 60% followed by 59.9% for extracurricular activities and individual attention at 40%.

Question 4. What are Participants perception on Parents' agreement and Students beliefs on Extending Teaching Hours?

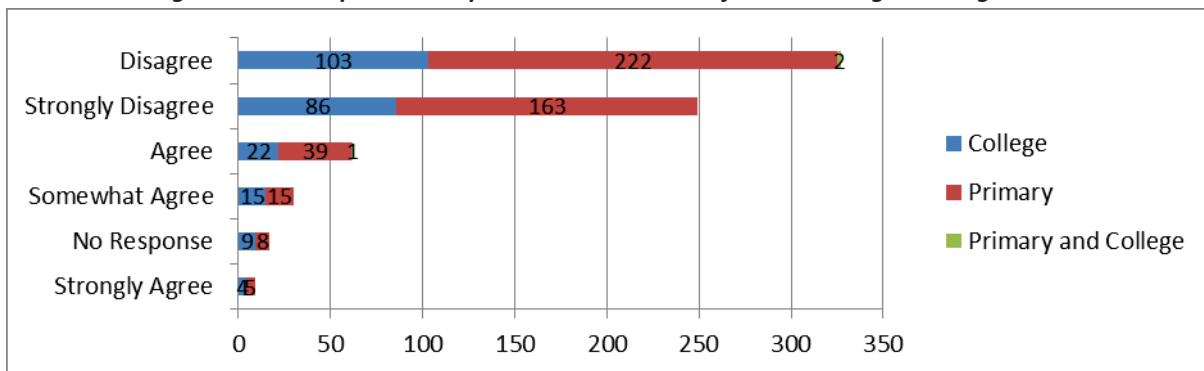
Figure 4a: Participants Perception on Parents Level of Agreement to Extending Teaching Hours



The results revealed that 80.9% of the participants indicated negative responses to parents' level of agreement towards extending teaching hours.

Teachers interviewed shared parental views on extending teaching hours. Teachers' perception of parents' complaints on extended school hours were based on fears for the children's safety especially girls, irregular transportation and getting home late. Moreover, some would face financial difficulties and incurring more expenses. Secondary teachers mentioned about 60% to 70% of parents do not support extending school hours.

Figure 4b: Participants Perception on Students beliefs in Extending Teaching Hours



The results showed almost 90% responded negatively.

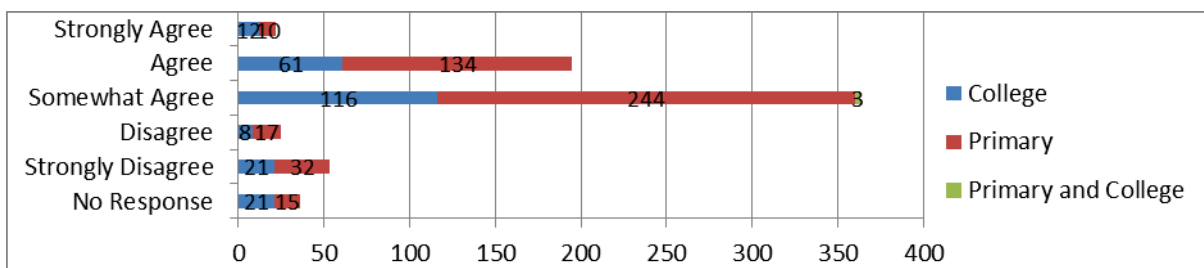
Student's responses according to teacher interviews also highlighted a high percentage of children that face learning difficulties during the extended school hours. Both primary schools and colleges felt this was a great concern. A college teacher expressed, "During afternoon classes students are tired and not paying attention. Teaching can be tiring and frustrating when students are not interested and easily distracted while another added "the children find it hard to cope with the extended school hours. In the afternoon, the students do not show much enthusiasm or motivation at that time of the day as the heat is intolerable and humidity is high. Even teachers that teach at that time need to have a repertoire of teaching skills and activities to ensure students show some interest.

For teachers at college level, this can be quite taxing and as one said “*I would prefer to do to teach students’ that are alert and not dead beat.*” Teachers’ responses varied at primary school. Some mentioned the students responded well to the new change and for one “*students really make good use of these extended school hours assisted by the staff and principal. This is evident in reading and writing as there are students who really need this.*” Another mentioned that this has provided opportunities for children interested in other areas, “*Visual art is another subject that interests children and the extended time allows for this. This is the case for P.E. as well and children can be involved in physical education or artwork up to 4 pm.*”

In summation it would seem the majority of parents and students do not support extending school hours. Improvements in reading and writing as indicated by some teachers as a positive aspect of extended school hours, however, most students find these late hours demanding, exhausting draining and learning is not productive. As teachers reported temperatures in the rooms, overcrowding, not well-planned activities and programs can increase behavioral problems and affect efficacious learning.

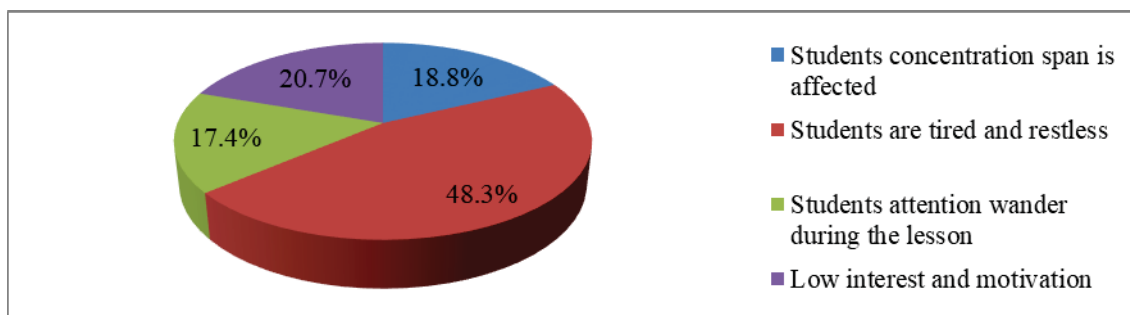
Question 5 What Problems have Teachers and Students face in Extending Teaching Hours?

Figure 5a: Distribution of Participants' Responses on whether there are Problems in Extending Teaching Hours



Teachers revealed (86%) there were problems at some stage in the implementation of the extended hours. These problems are further identified in Figure 5b.

Figure 5b: Participants' Responses on various Problems Facing Students in Extending School Hours



All participants agreed that at some level of the implementation there were problems in extending teaching hours. The distribution of responses indicated most are tired and listless (48.3%) followed by low interest and motivation (20.7%) and affected concentration span and wandering attention at a total of 36.2%. During the interviews participants pointed out that students and teachers face many problems with extending teaching hours. Participants mentioned “*children are tired and they are not responsive in*

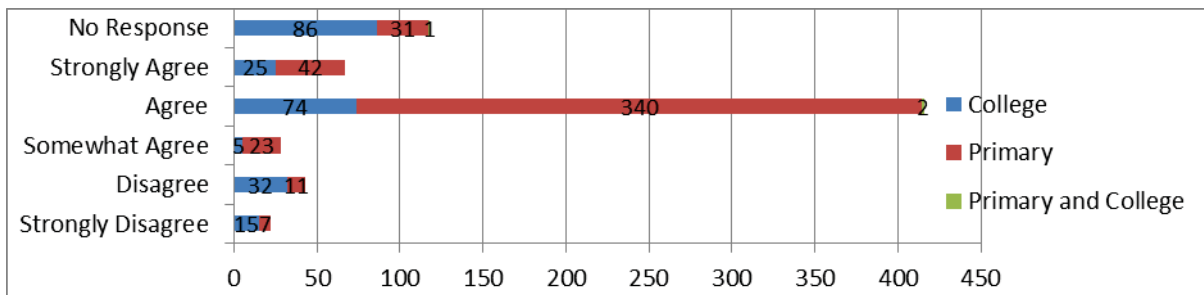
the afternoon”; some do not complete as once they home either they are too tired or they finish their usual home duties and go to sleep”; “it is hard to get students to focus when it is too hot in the classroom”; although we offer different activities to motivate students they still find it hard to listen and concentrate. Another said “Class control is an issue especially when students are not interested. I find myself losing it so I try to stay calm until I am composed then continue.”

Some teachers had no problems as “the school has a program in place and concerns are attended to”; “it was difficult to get adjusted to the change at the start but I soon got used to it; I used to take work and returned the next day without anything done, but now I can complete all preparations at school”; students use the extended time productively with staff assistance.”

Generally, the problems teachers have encountered with extending teaching hours are to do with students’ motivational levels, their ability to concentrate and be productive in the afternoon, lack of innovative programmes in place, increasing school violence, concerns about sustenance, transportation and girls getting home late. All have implications for the teachers planning which takes into account funding and resources to run programmes that are productive and support students’ improved performance.

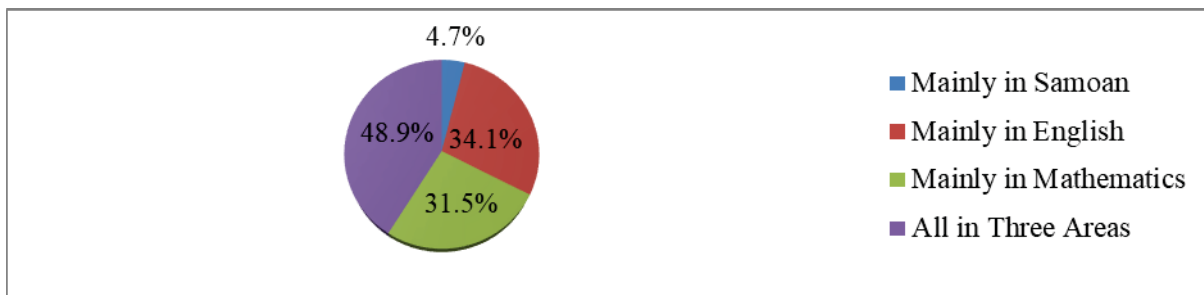
Question 6. Why are there concerns with the SPELL tests?

Figure 6a: Participants’ Responses on At-risk Students in the SPELL Tests



Participants (73.6%) total of 511 stated that their schools have at risk students in the 2015 SPELL test. Of this number, 79.3% or 405 were primary school teachers; the higher percent at this level is valid as the SPELL test mainly targets primary schools.

Figure 6b: Distribution of Participants’ Response on At-risk Students in English, Mathematics, and Samoan



As revealed from the results, the majority of participants agreed that there were high numbers of students who were at-risk in all three areas of English, Mathematics, and Samoan (48.9%), followed by English at 34.1%, Mathematics at 31.5%, and a very small number were at-risk in Samoan (5.7).

Most primary teachers acknowledged that the SPELL tests are *“very important in assessing children’s academic levels results indicate Year 4 is doing well and Year 6 shows an increase in Mathematics and Samoan results.”* For one respondent *“some positive change has occurred in the last 3 years and problems are being addressed.”* Another teacher believed *“Results definitely need improvement”* while yet another felt *“the problem is with English essay writing there is an impetus to improve SPELL tests, however, there is very little support; “the attitude of the librarian”* in borrowing books and assisting is unacceptable. However, one added *“students read for half an hour in the morning as literacy is a priority but there is almost no progress in students’ literacy level even with the extended school hours.”*

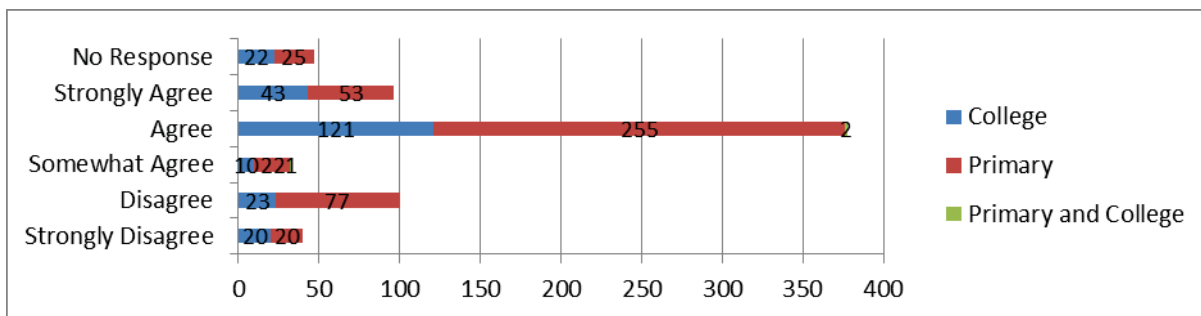
Secondary teachers were concerned with the *“lack of basic skills from those that enter college...there is reading in the morning ...but some students in year 9 cannot read even in Samoan”*; *many students’ have poor literacy skills...and special classes are held by experienced teachers. The extended hours has enabled us to do something to assist students with reading and writing.”*

Primary teachers recognized the requisites for improved literacy and numeracy levels in the schools. However, despite attempts to support literacy levels very little improvement is evident. One pointed to having certified librarians to ensure the library is used to support student learning. Essay writing was considered another priority area and alignment of benchmarks and individual student profiles should guide teachers work towards increased student achievement.

Secondary teachers were concerned with primary students that needed essential skills in literacy and numeracy. Moreover, with an examination oriented system teachers were expected to cover the curriculum and so the problem continues.

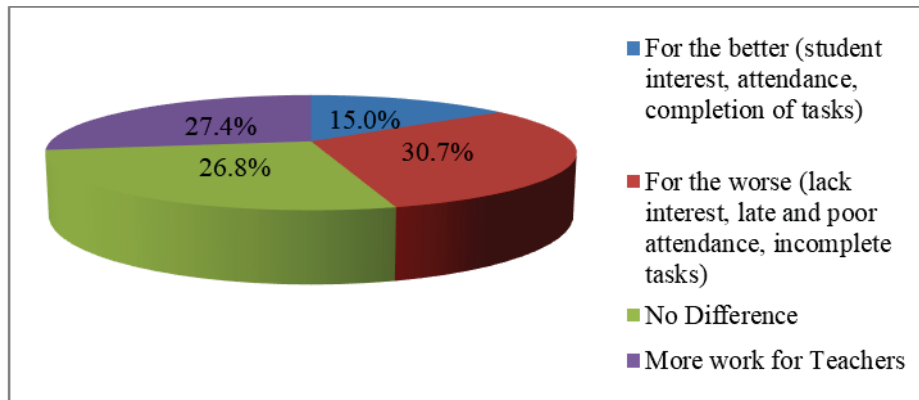
Question 7. How has the Change Affected the Classroom and School Programme?

Figure 7a: Participants’ Perception on whether the Change has affected the Classroom and School Programme



From the results, 73.1% or 507 participants indicated that the change has very much affected the classroom and school programmes in a negative way. These negative impacts are listed and discussed 7b.

Figure 7b: Distribution of Participants' Opinion on the Impact of Extending Teaching Hours



Participants agreed at some level that extending school hours had affected classroom and school programmes in a negative way and for the worse 30.7% followed by 27.4% indicating more work for teachers, 26.8% no difference and for the better 15%.

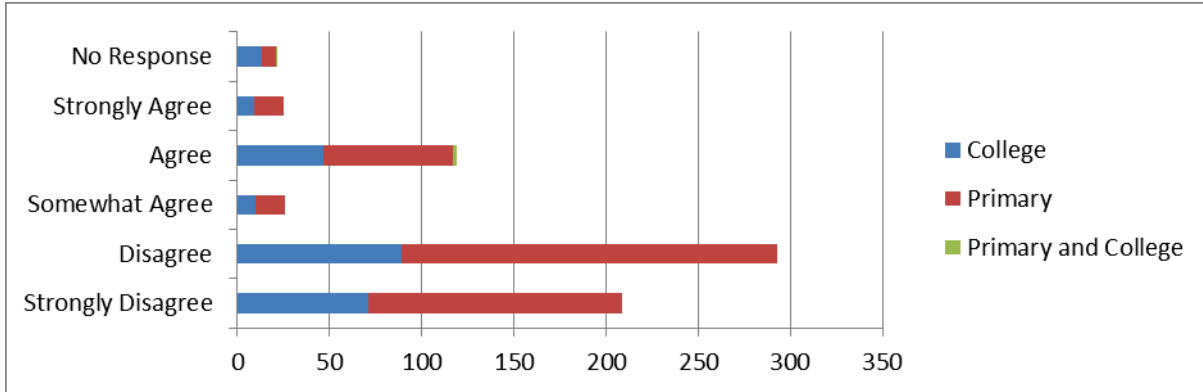
Responses from the primary participants varied. For one *“class and school program are not affected”* yet another said *“School-based program should be reflected in a change in classroom performance but this is not as evident.”* One teacher shared *“the extra time is used to go over subject errors, revisions, reading and homework but most children are not interested. Teachers do the work but there is no real extension or in-depth teaching because students find it difficult to participate or listen.”* Another said *“I prepared a lot even before the change and now I am used to that so I do not have problems with all the preparations for class, however there has been no major change in student achievement since the new change.* On the positive side one had this to offer *“The more hours at school means more preparations and activities for students. So I work hard to improve and be prepared. The extended school hours encourage me to find ways to teach, gather resources, and motivate students so that learning is not boring especially at these hours of the day. I have to work extra hard.* In addition one teacher said *“The extra programs we implement have been useful even though it requires extra hours of commitment and patience. I believe I have also benefited from extending school hours because I have improved my skills.”*

Participants at secondary level also indicated contrasting views. One pointed to their school program as being *“relatively steady.”* In other words, the change has not affected the classroom and school programmes. Another participant felt *“students seem keener to learn than three years ago. Their level of understanding has improved considerably.”* Still one other said *“I do a lot of planning and preparing activities for class.”* The majority was not positive *“I have had it at the end of the day no new programs for the extended hours; teachers do their own reading or homework with the students.”* Another mentioned *“students are affected because the room is too crowded with so many students it is impossible to attend to them individually.”*

Participants view changes differently in planning, motivating, supporting, and sustaining student interest critical elements in learning. Teacher commitment is crucial in the provision of learning activities and opportunities to enable students to aspire to do their very best. Moreover a holistic education would require financial support from the government, the community and parents.

Question 8 How has the Change Contributed to Perception of Students' Academic Performance?

Figure 8: Participants Perception on whether they believe the Change Support Student Achievement



The majority of respondents 72.3% or 502 disagreed or did not believe that the change supported student achievement. Only 24.4% or 170 of the respondents agreed or believed that the change supported student achievement.

The respondents' responses were indicative of diverse positions. Generally, the primary participants' referred to seeing *"some positive change from 3 years ago in children's reading, spelling and writing especially marking children's work."* Another pointed to a slight improvement *"in the academic performance of students"* at the school and one other mentioned *"in 2014 one student made it to Samoa College, also in drawing and writing competitions the children have shown they have the ability especially with incentives offered."* This is supported by another teacher *"I believe the extended school hours have given a slight boost in the academic performance of the students. In terms of reading and literacy the program has proved a lot of assistance to at-risk students."* However, on the downside, one claimed, *"There have been many changes but personally I see a drop in student performance compared to my earlier teaching experience."* For yet another, *"This has not translated into any great leaps from before."* Evidently, *"there is improvement for motivated and interested students but not so much for those who have problems and are usually absent."* In addition, *"There is very little change in students' academic performance. Students who use their time productively and are eager to learn receive improved results."*

Secondary participants also indicated varied responses on changes in students' academic performance. One respondent mentioned, *"Students' used to repeat the written question instead of answering it. Now they copy written notes well, talk and interact more."* Yet another offered, *"there is improvement at the year 13 level in the last 2 years."* One teacher mentioned *"There are no new programs like P.E. and Music, dancing and performing art during the extended hours...I do not see much improvement in the academic achievement of students."* This was reiterated by another *"the overall academic performance of students has not changed much as students are motivated to learn in the last two periods of the day."* Another added *"Since the change of school hours, little change in seen in students' academic performance...community and parental support could help to improve the academic achievement of students."* Overall participants held different views in terms of students' academic

achievement in the classroom. Primary teachers on the whole seemed to see some positive changes in the classroom but there were also those who felt that expectations from implementing the change had not been met. Secondary teachers also had similar views as the primary teachers.

Question 9. Which do you prefer: the change or before the change? Why?

Responses to whether teachers preferred the change to what it was before indicated the majority chose the previous teaching hours. Of the fifteen participants, five from the primary and five from the secondary favored the situation before the change. Four primary teachers and one secondary teacher showed preference for the change.

Obviously, most participants felt students' responsiveness and motivational levels were affected by the longer hours which may account for teachers' perception that even with the extended teaching hours students' academic performance did not show a marked improvement. Also teachers generally do not perceive their performance as being maximized and contributing to students overall learning in the afternoon due to planning and organizational problems, classroom management, student fatigue and teacher motivation.

Conclusion

The research was conducted to explore perceptions and opinions of school teachers on extending teaching hours in schools in Samoa at both primary and secondary levels. It was an attempt to find out whether there were positive and negative impacts and effects of extending school hours on both students and teachers academically and personally.

From the analysis the majority of teachers do not favour extending teaching hours. Interesting though the survey questionnaire had half the participants supporting changes in students' academic performance after extending teaching hours which differed from the interviews. This could be attributed to changes in one of the three subjects for the SPELL test in Samoan, English or Mathematics that primary students sit at Year 4 and Year 6.

Participants' responses in the survey and interviews to extending school hours on students' performance indicated that students face problems as a result of extending teaching hours such as tiredness, short concentration span, inattentiveness, apathy and fatigue. Likewise, teachers also face discipline and classroom management problems which usually accompany low students motivational levels especially in the hot and humid late afternoons. It has been suggested that student interest in extended hours could be supported through extracurricular activities that supplement academic work.

The implications for extending teaching hours were many and there were positives and negatives. Proponents for the longer hours indicated that students' needed individual attention from teachers which would include direct and ongoing assistance in problem areas, homework. Moreover the extended hours could support continuous reinforcement of earlier classroom work.

It would also provide teachers with ample time for marking, preparation and securing resources for the next day's teaching. In addition students would be exposed to extracurricular activities that supplemented classroom learning. However, on the other hand, those against longer hours pointed to

mental fatigue that could affect students and teachers and might be counterproductive with primary students' concentration span and inability to attend to longer hours of teaching. It has been suggested that longer hours and more teaching was not the answer, rather it was the quality of teaching and the programmes offered and not necessarily quantity. This was reflected in the 2015 SPELL test where extending school hours did not seem to match complement student achievement positively. Extending teaching hours should take into consideration programmes, teachers' capabilities, students' potentials, funding and resources.

The effective implementation of extending teaching hours would need to review its efficacy in light of these findings. It also challenges faculty members to ensure graduates from the program exit with an extensive repertoire of teaching skills and knowledge to support increased student achievement. Moreover, an after hour holistic education should include forging better links between academic performance, the arts and extracurricular activities (Hill 2008).

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Servant Leadership and Cultural Alignment to Teacher Education in Samoa

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Abstract

Servant leadership is multifaceted, relational and cross-cultural in its philosophy. The article deliberates on the presence and application of servant leadership qualities as perceived at the Faculty of Education of the National University of Samoa. The influence of servant leadership in education is considered a western type of leadership; however, indigenous organic Samoan leadership approaches have existed for centuries on care and service which are critical components of servant leadership. Greenleaf's Servant Leadership concepts are aligned to the cultural leadership approaches that are the cornerstone of Samoan society. Though the servant leadership philosophy has been widely documented in the past thirty years, indigenous organic Samoan leadership have been practiced by villages and families as an integral part of its cultural norms and a way of life. Schools and teachers on the other hand need to assess in light of this alignment the importance of the two as workable leadership approach towards coexistence in educational practice. It connects humanity and transcends physical borders and cultural orientations.

Keywords: Servant leadership, indigenous organic leadership, holistic approach, cultural, integrated, influence, teacher educators.

In Samoa, teacher educators are perceived as leaders, and the students they teach are followers. Exploring servant leadership practices of teacher educators at the Faculty of Education (FOE) of the National University of Samoa (NUS) was a motivation as the art of teaching and learning has far reaching consequences for future generations. Servant leadership as proposed by (Greenleaf 1970) is the basic desire to help others develop. His argument is based on the premise that one serves first and then leads. He posed the following questions; *'Do those served grow as persons? Do they, while being served become healthier, wiser, freer, more autonomous, more likely themselves to become servants? And what is the effect on the least privileged in society; will they benefit, or, at least, not be further deprived?'* (p. 15)

The focus of servant leadership is to provide guidance and direction for student teachers to ensure they possess the necessary competencies for the teaching profession. Faculty members' conceptualisation of servant leadership was investigated. The study hinged on the approach as conceptualised by Greenleaf (Banutu-Gomez 2004; Bjugstad et al. 2006; Blackshear 2004; Melchar & Bosco 2010; Nwogu 2004; Spears 1996; Taylor et al. 2007) highlighting the roles of leaders and followers. Greenleaf's philosophy of servant leadership addressed both the leader's and the followers' roles, suggesting that meeting the needs of the followers and encouraging the input of followers in the decision-making process would allow leaders to overcome the challenges faced by modern organisations (p. 15)

The construct of servant leadership from the Samoan context "has great promise for higher education with its emphasis on service, people and the greater good" (Wheeler 2012: xiv). This is in contrast to the selection of leaders based on qualifications and experiences. For Greenleaf a servant leader is one who guarantees other people's needs are being met first. (Avolio 2011: 8) reiterates the notion "that a leader role model for followers how to successfully influence others, he is inevitably boosting his followers' agency or efficacy to lead". (Sendjaya 2015: 1) also provides a working definition for servant leadership that is focused on a "holistic approach to leadership that engages both leaders and followers". It pivots on service, trustworthiness, relationships, ethicality, higher levels of motivation and transformation.

Background

The education system in Samoa has a colonial heritage, which has steadily been changing. Schools were introduced with the coming of the Europeans (Thomas 1993). This resulted in the indoctrination of the people from a collective whole to individualism. It was evident that competition and originality as opposed to the cultural values of collaboration, cooperation and conformity were becoming the norm in Samoan society (Duranti 1990; Helu 1991; McKinley et al. 1992; Ochs 2014; Tavana 1997 and Thomas 1978). The teaching and learning processes conducted within the classrooms were in many ways disconnected from the reality of the home and village life of many students (Utumapu-McBride et al. 2008). Retrospectively, there was little evidence of servant leadership which espoused Samoan's cultural values and approaches.

Cultural Practices versus Education

Samoa is a collaborative culture and family is foundational to village and local development (Gilson 1970 and Thomas & Postlethwaite 1984). The education system, however, is perceived as an individualistic entity (Afamasaga 2002). Cultural practices are integrated into the education system, but in so far as ensuring that the physical facilities are built and the wellbeing of staff in the schools is protected. The classroom is the prerogative of the teacher, and parents do not venture into that arena, although it has gradually changed. This paradoxical view of education has guided practice for years. Most teachers have gone through a similar system and uphold it as right and just for teachers know best the art of teaching.

Over the years, parents, politicians and the general public have lamented that education has been failing in its duty to provide students with the appropriate knowledge and skills to pursue further education and reduce student attrition. Moreover, school leavers that do not make it to places of higher learning lack expected behaviour, skills and attitudes to contribute productively to society (Afamasaga, 2002). Practising teachers believe the problem lies with the graduates that exit FOE (E. Iopu, personal communication, 18 July 2014)

Samoa Society and Education

Parents and teachers alike want their children and students to complete their education and exit to be productive members of the community (Frick & Spears 1996; Spears 1996). However, there seems to be an inconsistency in terms of parental expectations of the role of the school. Parents want their children to appropriate knowledge from the system to progress while at the same time, retain their cultural identity. While this may seem contradictory, it demonstrates the need for an approach that could merge knowledge gained from the western system of individuality, independence, unconventional and outspokenness to cultural understanding. The western servant leadership approach, conceptualised by Greenleaf, could resolve this dilemma.

These perceived disparities, if addressed, would ensure that students leave with the necessary knowledge, skills and attitudes to contribute positively to the community, society and the global world.

The majority of students entering the teaching profession come from strong cultural backgrounds that practice the norms and values upheld in the villages. This dramatically impacts their assimilation into the university and the world of academia. Student teachers at the FOE face problems, which are attributed to lack of motivation and disinterest but this, could be rooted in teaching being alienated from the cultural context. It becomes pertinent and paramount that a focus on servant leadership incorporating indigenous organic Samoan leadership concepts could contribute to effective teaching and learning at the FOE.

Samoan Culture

Historically, Samoan culture is collaborative. The village (*nu'u*) work together to plant the land (*fanua*), fish (*fagota*), construct house (*fale*), build canoe (*vaa*), weave (*lalaga*) artifacts, and participate in cultural ceremonies. In Samoan society, families elect their chief (*matai*) through patriarchal or matriarchal lineages (Holmes 1980). Their functions as leaders of the family (*'aiga*) are to look after the affairs of the *'aiga* and serve the family regarding *fanua*, titles (*suafa*) and the overall wellbeing of the family concerning village governance, disciplinary actions and protocols. (Mead 1928: 494) claims, "It is for its intricacy and complexity of social organisation that Samoan culture is particularly conspicuous". The bestowal of family, chiefly titles, is usually for life unless the titleholders can no longer execute their duties. Selection of the chiefly system ensures the untitled men (*aumaga* or *taule'le'a*) of families in the village are initiated into the rituals of service (Meleisea & Meleisea 1987). The *aumaga* assists the *matai* through their labour, and loyal service is rendered through the day-to-day activities (Mageo 1989; Mead 1928; Tiffany 1974).

Traditional Samoa

In traditional Samoa, service to the *matai* usually culminated in the appointment of a new chief when the incumbent steps down. Criteria used in the selection are based on consanguinity, service and personal qualities (Tiffany 1974). At present, the selection process practised is quite different and had been instituted in the years following European contact. Family *matai*s of the extended family select the new *matai*s. In most villages, anyone who is kinship regardless of gender or age is eligible (Holmes 1980). The servant-leader concept of consultation, collaboration and probable equality of opportunity is evident here.

Concept of Service in Samoa

Samoan society is based on the concept of service – service to family, church, community and nation. The idea of service as embedded in the fabric of Samoan society includes service to parents (*matua*), *matai*s, elders (*tagata matutua*) and those in authority and is sanctioned by tradition and culture. This is perceived as essential for the continuity of cultural values and familial relationships. With the advent of education, leadership took on a new meaning and indirectly a contrast to the hierarchical leadership structure of Samoan culture and tradition (Mageo 1989; Mead, 1928). Inadvertently, teachers came to be placed in a prominent position in the hierarchical structure, not through culture but by the nature of their job in serving the community.

Concept of Caring in Samoa

Caring is a significant element in the servant leadership concept. Relationship between people at home, part of the extended family or other institutions of society is an integral part of Samoan life. The Samoa expression *teu le va* meaning take care of the relationship is of great consequence (Anae 2010; Duranti 1997) which reflects the importance of maintaining peace and harmony, especially during conflict negotiations. Extending the concept to teaching is a prerequisite for a productive teacher-student relationship. As (Jones 1994: 41) points out “leaders who dismiss the need for a more democratic approach set their demise by encouraging uncaring, non-learning organisational cultures, with unethical working and learning practice, which stifle creativity and innovation, leading to poor quality of performance”

Servant Leadership and the Tautua Culture

In the Samoan cultural setting, the concept of servant leadership may reinforce the traditional view of service to become a leader, not the leader as servant first. As a perceived servant leadership society, faculty members have yet to take advantage of integrating indigenous organic Samoan leadership approaches and concepts in practice. An overarching operative framework of Samoan culture and the world of academia could provide faculty members with an alternative model to guide practice (Esera et al. 2010). Samoa embraces the service (*tautua*) culture, which can be equated to a scaffold for safety and protection. It is a form of reciprocity, a feature of the Samoan way (*fa'asamoa*) and significant to the *tautua* protocols of giving and taking. In the analogy, *tautua* is giving as in serving, but it is through giving that one receives greater rewards. (Grant 2013: 10) argues that “Givers succeed in a way that creates a ripple effect, enhancing the success of people around them...the difference lies in how the giver creates value, instead of just claiming it” More importantly, is how the giver-leader infuses value into the process. (Greenleaf and Spears 1998: 37) place a lot of emphasis on the role of institutions such as the church and the university. They believe these institutions can contribute much to society “because of their concern for values and the continuity of the culture, and because of their capacity for nurturing the serving qualities in both individuals and institutions”

Samoan Society A Servant Leadership Culture

Servant leadership principles articulated by Greenleaf are perceived to be similar to the teachings of Christianity that Samoa also embraces. Moreover, the application of servant leadership antecedents “is based on the dignity and self-worth of all people and emanates from the democratic principle that a leader’s power is generated from those who are led” (Neill & Saunders 2008: 396). Thus faculty members’ construction of servant leadership and how servant leadership worked is translated into practice. Inevitably, approaches and application of faculty members’ knowledge and understanding of indigenous organic Samoan leadership approaches and application were scrutinized. Samoan culture, despite its hierarchical structure, is believed to display a servant leadership culture, yet there is a perceived mismatch in schools. It demands the role of higher education in facilitating the concept of servant leadership in the schools and the community. Wheeler (2012: 176) proffered “Higher education deserves and needs servant

leaders now more than ever” indicating that institutions of higher education have an essential responsibility to its young people and society. Additionally, the inclusion of reflective practice is sanctioned in the *faasamoa* and legitimised in the servant leadership model.

Teacher Educators and Servant Leadership

In Samoa teacher education has a historical reputation of being collaborative a fundamental aspect of Samoan society. Its establishment and practice mirror the service background. The people in the village highly regard teachers they serve; hence, they are accorded the customary leadership honorifics *feagaiga*, literally meaning a covenant. The term had previously been bestowed to one other group, the religious ministers who are placed at the same level as the *matais* in the traditional hierarchical structure of Samoan society (Holmes 1980; Mageo 1989; Mead 1928). However, the term is the designated birthright of females in the family, a form of status where they are cared, served, and protected by male kinship (Amosa 2012). Conspicuously, the privilege given to teachers in the field denotes a relationship with the village to ensure safety, respect and wellbeing. Presumably, this view of teachers in the community is that they are leaders – and to the society, those who serve their children are leaders as children emulate and model their teachers.

There is evidence to suggest teacher educators who exhibit servant leadership principles in their teaching will have teacher graduates demonstrating similar attributes in the schools (Drury 2005; Hays 2008; Melchar & Bosco 2010; Wheeler 2012). Likewise, these attributes are also manifested across cultures (Hale & Fields 2007; Hannay 2009; Mittal & Dorfman 2012; Sendjaya 2015). (DePree 1989: 12) asserts that “the signs of outstanding leadership appear primarily among the followers” (Greenleaf et al. 1996: 13) claim that “The test of any kind of leadership is if leaders enjoy a mutual relationship with followers” . Indeed, a competent cadre of teacher graduates can be attributed to exemplary faculty members. If servant leadership and indigenous organic Samoan leadership approaches can translate and transform teacher educators’ practice it would herald in a progressive change.

Indigenous Organic Samoan Leadership

Indigenous organic Samoan leadership styles are pertinent as teacher educators are raised, educated and interact culturally in a society where leadership is imparted through osmosis. The term organic refers to leadership that has evolved as part of a particular culture’s behaviour, practice and performance. It is a hybrid leadership paradigm that is focused on humanistic, compassionate and communal approaches (Pirson & Lawrence 2009). (Jing and Avery 2008: 72) refer to a leadership paradigm that “relies on reciprocal actions” Indigenous organic leadership is a relational approach and encompasses the attributes of servant leadership. Culturally, leadership training is provided through the structural agencies of the women’s group (*aualuma*) and the mens group (*aumaga*) that teach activities, functions, and protocols of Samoan society through active participation.

Cultural Leadership Approaches

The cultural leadership approaches are obtained from idioms of the Samoan way of life, depicting how Samoan decision-making is conducted, *ua fetau fola*, the floorboards fit perfectly meaning there is a consensus (Schultz 1980). In a unanimous decision, *ua se fau e ta'i* refers to the intricate twisting of a cord that despite difficult and sometimes convoluted discussions, amicable decisions are achieved. Additionally, in matters requiring majority input, *sa'a faaoti le utu a le faimea*, let the fisherman empty the net signifies all should provide input to arrive at the right decision (Schultz 1980). (Thaman 2013: 100) claimed the "content of learning was sourced from life itself and drawn from a knowledge system and epistemology that had existed for thousands of years" Significantly, the Samoan concepts embrace the notion of duality, oneness and unanimity embodying care and service.

Indigenous Organic Samoan Leadership Approaches

With the advent of formal education and western influences permeating Samoan life, indigenous organic cultural leadership concepts and approaches were observed and applied in the clarity of thought (*tofa manino*) and the shared decision making (*soalaupule*) . Although these are often referred to and practised, the two concepts are inclusive of other leadership approaches. *Tofa* is a respectful term for thoughts and is usually given to leaders, *matais* or high ranking chiefs (*tamali'i*). These include the visionary (*tofa mamao*), *seeking truth and knowledge (tofa saili)*, *in depth knowledge and understanding (tofa loloto)* , *flexibility and open mindedness (tofa fetala'i)* [flexibility and open mindedness], and reflective practice (*tomanatu*) .

The Samoan concepts of leadership are hardly registered and chronicled in leadership discussions. More often, references are made to leadership styles developed as part of western philosophy, theory, dogma and dialogue. Tamasese (2005) draws a parallel of western ballads and melodies that Samoans draw inspiration from instead of traditional songs, chants and dances. Forestalling this trend and capturing the meanings associated with Samoan art forms can be significant for ethnic pride and personal development. Dissonance among faculty members in terms of leadership styles sees the adoption of western approaches in the academic setting and the traditional ones in the cultural environment.

Leadership interpretation in Samoa is preoccupied with those elected into position; the *matais* of families and villages, members of parliament, the ministers of churches, and principals of schools. However, current trends of lateral leadership deal with breaking barriers and empowering people as leaders that influence others (Avolio 2011; Bass 2000; Broom 2015; DePree 1989; Gershon & Straub 2011; Northouse 2013).

Five Dimensions of the Tofa Manino

In Samoa, the *tofa manino* is equated with wisdom and more recently has been used to coin those who have been awarded Doctors of Philosophy from universities. Le Tagaloa (1996) articulated the five elements deemed essential requirements for the *tofa manino*.

Liuliu le tofa ma le moe

The first element *liuliu le tofa ma le moe*, is logic-based and backed with evidence, referred to as *lagi soifua* or *pine faamau*. This is rooted in land, titles and genealogy where claims to land and titles have to be proven. Samoa, a traditional oral society uses genealogy to substantiate claims, as titles are historically traced to property associated with a particular title. Moreover, there is cross-checking of lineages from various oral sources, a form of triangulation that the contentious rival parties have to establish and verify. One of the essential qualities of a leader in the *fa'asamoa* is having a well-grounded understanding of familial genealogical connections. (Tamasese 1994: 67) reiterates "Aside from language, a thorough grasp of genealogy, honorifics and names of, for example, house sites, land, villages and districts is essential"

Amio ma aga

The second element of ethics and identity refer to ethics (*amio ma aga*) and identity (*faasinomaga*) emphasising family and village are nurturing as contributing to one's ethical identity. Samoan culture has expectations of how people behave, and specific protocols have to be followed, one never walks in front of seated elders, and one has to sit when talking to them. The way people behave was seen as a direct reflection of one's parents, family and village which is, acknowledged in Samoa as one's *faasinomaga* or one's origins. As such, the leader is exceptionally conscious of societal expectations and their unique role. Leaders at all levels are aware of the interplay of one's ethics as shaping identity and vice versa. (Uperesa 2010: 288) aptly sums the situation "It is with the weight of genealogy, knowledge, and expertise that one's voice and actions are judged"

Onomea

Thirdly, the element *onomea* [aesthetics] is noticeable in Samoa with traditions in 'ava [drinking] ceremonies, and the art of building, weaving, tattooing and dancing. Family presentations of gifts during weddings, deaths, tattooing and conferring of titles testify to an appreciation of beauty and overall presentation. During these ceremonies, grooming is taken to another level, and families demonstrate to invited guests, visitors, friends and neighbouring villages elaborate displays of Samoan hospitality, artefacts, performance and banqueting. One of Samoa's most priceless artefacts is the *ietoga*, an elegant mat intricately woven by women for special occasions.

Usually, before a presentation visual exhibition *fa'asavali* meaning to walk the fine mats take place before these are bestowed. Also, inside and outside the *fale*, people take immense pride in making it attractive. Even before the recent introduction of art and craft in bouquet making, garlanding and wreath making women have long used hibiscus flowers, coconut ribs, banana leaves and shoots for home and village decoration. Though some presentations are modest and others ostentatious, leaders nurture in families an appreciation of beauty and this extends to the customary practice of aesthetics values evident in giving and taking.

Tuluiga o mea sili ona moni ma faamaoni

Fourthly is the *tuluiga o mea sili ona moni ma faamaoni* [metaphysics]. This goes beyond what is seen to unearth what is real and the need to seek the utmost truth that has practical application and implication

for the village and society. Deliberations on difficult decisions and the execution of disciplinary action summons leadership that adjudicates justice for all. Family and village dynamics are part and parcel of Samoan life regulated by the *matais* who act as the village council (*fono*) of law and order. As Keesing & Keesing (1956: 48) point out “*Fono* procedure at all levels has realism and interest for all Samoans. They know the rules of the game and are interested in the changes in those rules” The country’s legal system sanctions the village council with the *matais* working within the parameters of the constitution and the law. The decisions they make on all aspects of village life have consequences for implementation where discovering what the situation is and what is the truth is paramount to peacekeeping and maintaining village harmony.

Saofaiga

Finally, the *saofaiga* [social grouping], which includes the different levels of Samoan society the *matais*, the *taulele’a* or *aumaga* and the *auluma*. Fostering the various social groups contribute to the development and augmentation of family and village. The juxtaposition of the *saofaiga* within the framework of existing praxis illustrates the intricacies of leadership and its association in the various group dynamics. Interrelated and connected groups tend to reaffirm behaviour, attitudes and beliefs that are consistent with shared values. In this context, practice and application of the *tofa mamao*, *tofa saili*, *tofa loloto*, *tofa fetala’i* and *tomanatu* would most likely achieve the *tofa manino*.

Soalaupule

The *soalaupule* [distribution of authority] is a much-used leadership approach. Extended families often come together to discuss issues that have implications for cohesiveness and unity. Despite individual differences and group undercurrents, families tend to exhibit to others that there is family solidarity. A Samoan adage, *a malu i fale, e malu i fafo*, refers to protection in the home ensures protection elsewhere. *Soalaupule* can be lengthy and time-consuming, but at the end of the day, it is the voice of the majority that carries. Even in such a democratic process, there is always the voice of dispute that is often appeased by the predominant, familial ties. At times decision making is deferred, and the *tamali’i*, the chief with the highest title will call for reflective time. In urgent matters requiring immediate attention, the *tamali’i* may decide on the spot. The approach is collaborative and cooperative as the teams function to achieve consensus in decision-making. It provides irrefutable evidence of what families, villages and society can achieve through a collaborative effort.

Predictably, the indigenous organic leadership approaches of *tofa manino* and *soalaupule* illustrate the basic fact Samoa is entrenched in the *tautua*, care and service for the *aiga*, *nuu* and *malo* [nation]. Moreover, leaders have utilised *soalaupule* personally and professionally. However, its practical nature in education should be further explored.

Samoa Education System

The arrival of the missionaries from the London Missionary Society (LMS) in 1830 saw the introduction of formal education (Afamasaga 2009). Pastor’s schools were built to educate and evangelise the population (Afamasaga 2007; Baba 1991). In the late nineteenth century, Germany became the colonial,

administrator but education remained the prerogative of the missionaries (Thomas 1993). This state of affairs was disrupted with the advent of World War I (1914-1919) after which New Zealand was mandated to look after the territory (Barrington 1973). Missionary monopoly of education continued (Bray, 1993) and the New Zealand administrator like its predecessor took a backseat. During these years, there was little evidence of educational progress and expansion (Barrington, 1973). After World War II (1939-1945) New Zealand was given trusteeship of Samoa until it won independence in 1962. The intervening years 1945-1961 saw a change in the development of education in Samoa. Primary education was expanded followed by the establishment of junior secondary schools, and in 1953 Samoa College, the first co-educational government college was established.

Primary education consists of eight years (Year 1 to Year 8) before students enter secondary school for another four to five years (Year 9 to Year 13). After leaving college students joined the workforce, go overseas, or enrol at the NUS. Admission to the NUS depended on results from the Samoa School Leaving Certificate examination.

Post-Independence Years

Samoa's education system has evolved over the years in its organisation, relevant curricula, and in policy and planning capability (Meleisea et al. 2012). Although progress has been made with some succeeding in the western transported education system, a vast majority of children do not make it to the higher echelons of academia (Kaye 1985). Although independence was achieved in 1962, Samoa has yet to fully shed the mentality of its colonial heritage (Bray 1993; Luteru & Teasdale 1993; Thomas & Postlethwaite 1984). Teacher educators' experience, knowledge and understanding of the world in which they have been educated, and the one they grew up in are in flux. (Thaman 2013: 98) argues, "all learners need competent teachers who are not only professionally qualified but also culturally competent. This is particularly so with teachers of indigenous students, who face the conflicting expectations of schools and those of their home cultures" A subtle gap exists in merging the two worlds to ensure education is meaningful and applicable in reconciling the needs of a globalised world and the local community (Kaye 1985; Puamau 2007). Effective and sustainable changes can only be supported by significant, conceptual structures that are appropriately contextualised as such faculty members can work towards strategizing for solutions to the cognitive dissonance by modelling coexistence in theory and practice.

Teacher Education in Samoa

An Act of Parliament established the National University of Samoa in 1984. Since its inception, it has grown from a University Preparatory Year (UPY) priming students for university in the rim countries, specifically New Zealand, Australia and Fiji to a university with six faculties.

These include the Faculty of Applied Science, Faculty of Arts, Faculty of Business and Entrepreneurship, Faculty of Education, Faculty of Nursing and Health Science (NUS Calendar 2017). Also, there are two centres, the Centre for Samoan Studies and the Oloamanu Centre for Professional Development and Continuing Education. These centres provide courses in the Samoan language and culture, and in areas to support job opportunities and employment respectively.

Teacher Education History in Samoa

This is traced to 1939 when it was first established during the New Zealand administration (Western Samoa Teachers' College Commemorative Album 1996). Before joining the NUS and became the FOE in 1997 it was called the Western Samoa Teachers' College (WSTC) after the Primary Teachers' College (PTC) merged with the Secondary Teachers' College (STC) in 1991.

FOE and NUS Amalgamation

Since the merger of FOE and NUS, FOE has evolved to the present in its focus to expand and serve the needs of the local and national community. It offers preservice, postgraduate and masters qualifications for those who wish to upgrade their teaching qualifications in the profession. Currently, there are two departments; one is Education that introduces students to the traditional disciplines of human development, teaching and learning, measurement and evaluation and contemporary issues. Recent trends include inclusive education, early childhood education, ethics and values, effective pedagogy and critical thinking. The Teacher Education department caters for the curriculum and pedagogical areas including the expressive and practical arts area.

Teacher Education Recruitment Challenges

In recent years students have opted for teaching out of interest, parental guidance and a career pathway. Previously, the majority chose to teach as a second or last resort, and some would start the programme and leave as soon as better opportunities came up. (Nichols 2011: 3) articulates "Too many individuals pursue the teaching profession simply as a choice to another career, without any clear passion for students and their learning and development" As such, teacher educators need to play a defining role in sustaining, addressing and contributing to the development of teacher graduates (Esera 2002; Afamasaga 2006; Hunkin-Finau 2006).

Challenges for Teacher Educators

There is a concern that faculty members of the FOE like others before them have experienced a western-oriented system where values, philosophies, beliefs and ideas seem to run counter to their cultural value system. Student teachers' worldview is centred on the local context in which they have been nurtured. Therefore, upon entering FOE, they are exposed to a form of leadership that may run counter to their local context.

There are apprehensions about the disconnection between their cultural interpretations, expectations and perceptions and the western-oriented system which may result in some disequilibrium. As a consequence, faculty members' constructs of servant leadership and their practice of the indigenous organic Samoan leadership are crucial not to mention the interplay and influence of western leadership styles on their practice. The knowledge gap on servant leadership and indigenous organic Samoan leadership could be bridged with an integrated approach that would enhance faculty members' leadership practice.

Conclusion

FOE faculty members play a pivotal role in nurturing and fostering student teachers to serve the schools and their communities. Their conceptualisation of leadership and their leadership practice influence the teaching and learning environment. Also, western leadership and indigenous organic Samoan leadership approaches seem to influence faculty members practice. Teacher educators play a significant role in students' lives as their modelling and methods of teaching consciously or unconsciously impact their training of teachers.

The demand for effective teacher educators that link effective teaching to successful leadership is more pronounced today at all levels of society. (Hesselbein 2011: 113) points out, "Effective leaders know that communication...is the essential required for future confidence, credibility, and relevance". (Baron 2010: xvi) claims "Leaders need to understand the culture they create through their words and actions and the climate they set by their inconsistent behaviour – and especially the impact they have on those around them" Consequently, teacher educators have the vital task to ensure teacher graduates are imbued with the competencies to serve and become effective educators. Society expects teachers to be leaders, change agents and problem solvers (Wheeler 2012). Evidence on the successful implementation of servant leadership in primary and secondary education (Black 2010; Mahembe and Engelbrecht 2013; Russell 2013) and in higher education (Drury 2005; Hays 2008; Oyentunji 2013) indicated that servant leadership had a positive influence on participants Likewise, practices in business organisations (Flint Jr. 2012; Kouzes & Posner 2010, 2012) and non-profit organisations (Han et al. 2010; Silvers 2010; Williams 2009) on constructive servant leaders attributes could provide appropriate models for teacher education in Samoa. Research has indicated the relationship between teacher educators' servant leadership qualities and practices are more likely to foster attributes of servant leadership in student teachers (Baron 2010; Kouzes & Posner 2010; Lueneburger 2014; Wheeler 2012). The integration of servant leadership and indigenous organic Samoan leadership styles could be seen as a progressive way forward as both share similarities that are contextual and multidimensional.

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ICT Integration in Teaching and Learning: Samoan Pre Service Teacher's Perspective

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Abstract

In this age of information technology, the idea of using ICT as a teaching tool is very much at the forefront of all education discussions. Studies found that students are now more frequently engaged in the meaningful use of computers (Castro Sánchez and Alemán 2011) thus they have developed more knowledge and understanding in the use of technology in their areas of learning (Chai, Koh and Tsai 2010). It is therefore crucial for teachers to change their ways of teaching from a more traditional pedagogy to integrating ICT into their teaching method so they will be able to cater for learning needs of the 21st century learners. The purpose of this qualitative study was to examine perceptions of pre service teachers concerning the use of ICT as a pedagogical tool in the teaching and learning process. Further to explore this cohorts' views on adequacy of computer courses offered at university in preparing them for the teaching profession. This qualitative study utilized an open ended questionnaire with 40 Pre service teachers (24 Secondary and 16 Primary) who were in their 3rd year in their study within the training institution. Findings indicated that computer courses offered for pre service teachers were sufficient only to fulfill students' academic requirements and lesson preparation during teaching practice. Findings also indicated that while ICT has great pedagogical value, it is perceived as a teaching resource/tool in the hand of the teacher which reinforces the notion of teacher centered (teacher imparts knowledge and learners receive) as opposed to learned centered approach where learners themselves use ICT to construct their own learning. The study although undertaken in Samoa has greater relevance to other contexts in the area of ICT and education

Keywords: Teacher Education, Information and Communication Technology (ICT), Integration, Pedagogy

Introduction

In this day and age the importance of technology in our daily lives cannot be overemphasized given that technology seems to modernize every fragment of society. In the discipline of education the value of technology is overly crucial. This is because most students in this era of technology explosion, seem more disposed to learning from technology than from a teacher lecture or chalk and talk teaching approach. Based on these observations one argues that the 'chalk and talk' and lecture style mode of delivery- a very traditional type of teaching technique that was/is still prevalent in the classroom although seem appropriate in the past may not be relevant today given the rise of information and communication technology. Therefore there is a great need for a change in teachers pedagogical skills i.e., teachers need to be skilled and familiar with the use of modern teaching approaches and pedagogies using IT to serve the needs of the modern day classroom. It is crucial that teachers have the requisite IT skills to effectively carry out classroom instructions. (Hughes 2013) refers to this integration of technology in teaching and learning (IITL) as the use by teachers and/ or students of digital ICTs that support the constructivist teaching and learning process. The question can be asked; are Samoan teachers well prepared in this respect? This study was driven by the concern that the computer course(s)

offered by training institution for pre service teachers in the Bachelor of Education (BEd) program may not equip preservice teachers to address the needs of the 21st century learners in the classroom.

Context of the Study

At the National University of Samoa (NUS) with respect to computer courses offered for pre service teachers in 2015, apart from secondary pre service teachers who took computer courses either as a major, a minor or as an elective, the majority of students (primary and secondary) enrolled in the bachelor of education program took only one computer course (HCS081 Foundation Computer studies) throughout their training. As the title of the course indicated, the course was offered at the foundation program and involves very basic computer skills. The aim for the course was to “introduce students to the components and functions of microcomputers, the uses of computers in society as well as providing an introduction to contemporary applications and programming. Topics include, introduction to computers, to operating systems (Microsoft Windows), to word processing (MS Word), spreadsheets (MS Excel), database (MS Access) and programming (Java)” (National University of Samoa Calendar 2015: 283).

Many conversations at the faculty meetings seem to suggest that computer courses offered for pre service teachers may not be sufficient to equip these individuals to teach in the classroom. It is a serious concern if teachers are not well equipped with the appropriate instructional methods to address the needs of learners in the present day and age. As teacher educators, we were driven by the desire to examine the views of pre service teachers about the following: sufficiency of computer courses offered by the university to prepare new teachers for the teaching profession; value of computer skills as a pedagogical tool for teachers as well as challenges encountered by participants during their computer course training.

This research is of interest to stakeholders who have an interest in teacher preparation programs and in student education both at the national and international level. This includes policy makers with the ministry of education and at the teacher training institution as well as trainers who are involved in the preparation of teachers.

Literature Review

Information and Communication Technology (ICT) are widely used in today’s education field which include computers, the Internet, and electronic delivery systems such as radios, televisions, and projectors among others. Research has indicated that ICT assists in transforming a teaching environment into a learner-centered one (Castro Sánchez and Alemán 2011). This is because in an ICT learning context, learners are more likely to be actively involved in the learning processes (Lu et al. 2010) and will be given the authority by the teacher to be involved in decision making, and planning. As such, ICT provides both teacher and learners with more educational possibilities. (Coleman et al. 2016) contend that the appropriate use of ICT in teaching change the nature of the teaching and learning atmosphere from teacher-focused to learner-focused. The authors

further add that the change of focus from teaching to learning results in a more engaging and creative environment hence shifting the role of the teacher from a communicator of knowledge to that of a facilitator. (Keengwe et al. 2008) stress that the integration of multi-media technologies such as graphics, video, audio, animation etc. into the teaching and learning environment can enhance classroom instructions while at the same time address the varied learning needs of learners.

It appears that ICT integration into the teaching and learning environment can achieve the best quality pedagogy however while the idea seems attractive, it comes with a number of challenges. For example research have shown that there are interrelated factors that determine the success or failure of teacher use of ICT in education. These factors can be connected to the teacher personal characteristics (beliefs, values and attitudes) as well to the external environment. With regards to teacher related factor, research has shown that teachers' attitudes and beliefs are essential determinants and predictors for integration of ICT in classroom instructions (Eickelmann and Vennemann 2017). Attitude can be influenced by knowledge, skills and experience with ICT. Studies have shown that not all teachers are technology savvy, for a number of teachers have inadequate skills and expertise in using computer thus can inhibit ICT usage in the teaching and learning (Becker 2000). Limited skills can affect one's motivation and as noted by (Pamuk and Peker 2009) teachers who suffer from computer anxiety may not be motivated to use educational technology effectively. Limited skills can also be connected to experience and one may also argue about the importance of an individual being experienced in a phenomenon for it impacts on their motivation as well as attitude towards a phenomenon. For example, (Beckers and Schmidt 2003) in connecting experience and attitude towards computer skills highlighted that experience influences one's positive attitude towards computers. Papasterigiou 2010 (cited in Player-Koro 2012) argued that familiarity with technology use can result in people viewing ICT use in a more positive light- this in turn will lead to "a greater feeling of self-efficacy." It is evident that teacher characteristics is one essential factor that determines success or not of ICT integration in education.

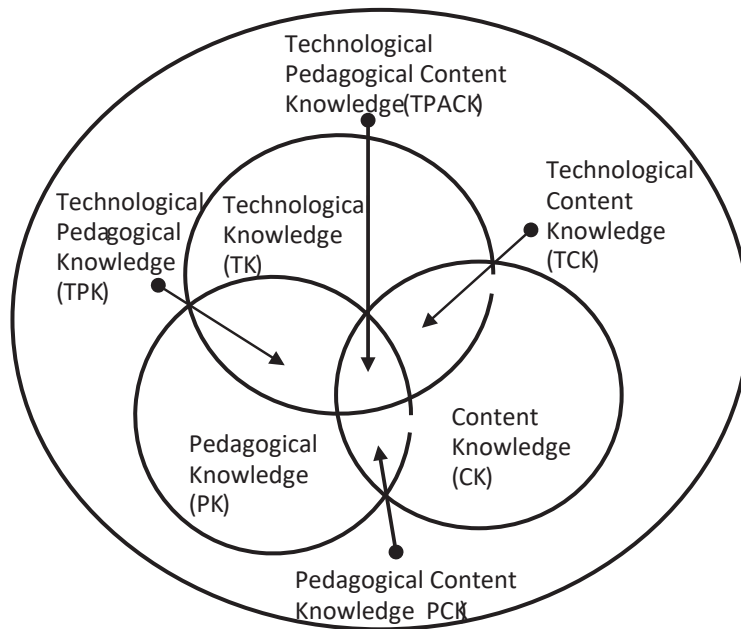
In addition to teacher characteristics, factors pertain to the environment can also affect ICT integration. These factors can include infrastructure as well as personnel such as trainers and facilitators of ICT programs. In their review of the literature, (Aslan and Zhu 2015) argued that one of the important considerations for effective integration of ICT into education concerns with infrastructure. They noted that availability and quality of infrastructure affects the integration of ICT in education. (Akbulut et al. 2011) supported the importance of having accessible solid infrastructure in addition to employing technical support staff to support individuals in their use of ICT. Implied herein is the importance of having available infrastructure that is accessible to all users in addition to personnel to support ICT usage.

Having individuals with expertise in ICT skills to offer computer training for teachers is essential as stressed by (Aslan and Zhu 2015). The authors argued that one of the determining factors for successful integration of ICT into the teachers' practice mainly depends on what teachers learn from their teaching program. Implied herein is the important role the trainer and training

institution play in the development of the teacher. Teachers need to develop the confidence to teach and make a difference in the lives of other individuals, they need to have good knowledge and understanding of ICT and how it can be integrated into their classroom instructions. Effective training with appropriate training programs can help develop confident teachers of today therefore the value of the trainers role in preparing teachers cannot be overemphasized. (Hafsah 2017) maintained that teacher training institution needs to prepare teachers to utilize technologies in a systematic and analytical manner. He emphasized the importance of having creative teachers who can create own resources and techniques and this is where ICT skills come in. Good computer skills can develop creativity not only within the teachers but learners themselves. The current study examines preservice teachers' experiences concerning computer courses they took at the training institution and the adequacy of the courses in preparing them for the teaching profession. Furthermore, to investigate this cohorts' views regarding integration of ICT in education. In order to understand the concept of ICT integration into education as used in this research, the Technological Pedagogical Content Knowledge (TPACK) framework by Mishra and Koehler (2006) in Figure 1 below was adopted.

Technological Pedagogical Content Knowledge Framework (TPACK)

Figure 1: The TPACK framework



Adopted from: Mishra & Koehler (2006), page 1025, Figure 4.

The TPACK framework (Figure 1), suggests that for effective integration of ICT into teaching and learning (IITL) three spheres of knowledge; content knowledge (CK), pedagogical knowledge (PK) and technological knowledge (TK) need to be taken into consideration by the teacher. According to (Mishra and Kohler 2006), Content Knowledge (CK) refers to knowledge about the actual subject matter that is to be learned or taught. The authors contend that in order for the teacher

to integrate technology into teaching, it is crucial for the teacher to have a good understanding of the subject that s/he teaches. This includes knowledge of central facts, concepts, theories, and procedures. Pedagogical knowledge (PK) on the other hand refers to an in-depth knowledge about techniques for facilitating the teaching and learning environments which encompasses values and aims, classroom management, lesson planning, and student evaluation. (Mishra and Kohler 2006) also note that a teacher with a profound PK is more likely to incorporate technology as part of his or her classroom instructions, while at the same time take into consideration the nature of learners and their learning context. Technological knowledge (TK) is concerned with the knowledge about standard technologies, for example books, chalkboard- similarly the knowledge of more advanced technologies such as the Internet and digital video and how these technologies are operated. Mishra and Kohler submit that the teacher with TK has good knowledge of the operating system and computer hardware. Furthermore, the teacher is capable of using standard sets of software tools such as word processors, spreadsheets, browsers, and e-mail, in addition to installing and removal of programs, devices as well as creating and archiving documents.

Mishra and Kohler noted that the interaction of these three knowledge domains; CK, PK and TK yield three paired knowledge spheres namely pedagogical content knowledge (PCK), technological content knowledge (TCK) and technological pedagogical knowledge (TPK). The authors refer to PCK as the pedagogical knowledge that is appropriate for content instruction or the teaching approach that is suitable for teaching a specific content-it includes knowing how to organize and arrange the content for effective instruction. Furthermore, the authors view TCK as the knowledge concerning the shared connection between technology and content. They emphasize the importance of the teacher having both the knowledge of the subject matter plus the knowledge of how the subject matter can be realized through the technological application. With regards to TPK, the authors recognize this as the knowledge of various technological apparatuses or devices that can be applied in the teaching and learning situation. It also involves the knowledge of the changes that occur within the teaching and learning process by means of using a specific technology. TPACK (Figure 4) therefore involves the interconnection of the three bodies of knowledge (CK, PK & TK). The authors submit that for teachers to be effective in teaching using technology (integration ICT in education) the development of TPACK is essential.

Several studies have been conducted on pre service teacher's perceptions regarding integration of ICT in education however none has been undertaken within the Samoan context. This study was the first undertaken in Samoa to gauge attitude and perceptions of this cohort regarding the ICT phenomenon. The purpose of this qualitative study was three fold:

To find out participants' views of ICT courses offered for teachers at the National University of Samoa (NUS) and whether these prepare them for the teaching profession; to examine their views about the integration of ICT into education as well as their views about ICT as a pedagogical tool.

The main research questions which guided the present study were

1. How do preservice teachers perceive courses offered for preservice teachers at the training institution?
2. What are pre service teachers' perceptions concerning integration of ICT courses in teacher education?
3. What do pre service teachers think about the practical value of ICT as a pedagogical tool?
4. What are challenges that pre service teachers experience in integrating the ICT course into their studies and or teaching practice?

Methodology

A qualitative approach was utilized in this study to investigate pre service teachers' perceptions of ICT integration in education in the Samoan context. A total of 40 pre service teachers (primary and secondary) who were in their 3rd year of teacher training in 2015 were surveyed using an open ended questionnaire. Purposive and criterion sampling was used to select participants for this study. Criterion sampling aspect was deemed appropriate given the researchers were interested in selecting the participants based on the following criteria: (i) students should be in their third year of teacher training, (ii) the participants should have already taken at least one computer course at the National University as part of their training.

Table 1: Characteristic of participants

	Males	Females	N
Secondary	6	18	24
Primary	3	13	16
N	9	31	40

Table 2: Number of participants relative to computer courses undertaken

	Major	Minor	Elective	Core (HCS081)	N
Secondary	3	6	4	11	24
Primary	-	-	5	11	16

Table 2 presents students from both secondary and primary level according to type of computer courses taken during their studies.

Procedure

A questionnaire with open ended questions was sent to 50 third year pre-service teachers (both primary and secondary) with a return rate of 40 (80%). The aim was to examine their perceptions regarding the integration of ICT into education or teaching and learning process. Informed

consent was sought from all the participants to participate in the study. The questions were related to: value and sufficiency of ICT courses offered at NUS for teachers; value of ICT as a pedagogical tool, integration of ICT into the teaching and learning process and challenges they encounter with using ICT at NUS.

Data Analysis

The qualitative data was analyzed using a thematic open coding procedure noted by (Miles and Huberman 1984). The questionnaires were collected, transcribed and each questionnaire was read through several times and coded and categorized by the researchers. The unit of analysis was based on units of meaning and each case was assigned a case number. Open coding was used to ascertain the themes and axial coding was applied to connect the sub-themes under the related themes. Three significant themes emerged from open coding namely (1) Significance of Computer courses offered at the training institution 2) ICT integration in education, (3) ICT as a pedagogical tool (4) Challenges with ICT at the training institution

Findings

Table 3: Emerging themes and subthemes

Themes	Sub themes	Categories
Significance of computer courses offered at training	<ul style="list-style-type: none"> • Sufficiency of • Usefulness /value of ICT courses 	<ul style="list-style-type: none"> • Academic studies • Lesson presentations • Research
ICT integration in education	<ul style="list-style-type: none"> • ICT in relation to globalisation • ICT economic perspective 	
Pedagogical value of ICT	<ul style="list-style-type: none"> • ICT as a pedagogical tool 	
	<ul style="list-style-type: none"> • ICT and teacher professional development 	<ul style="list-style-type: none"> • ICT: a teaching tool • ICT and research • ICT teacher creativity/critical thinking • ICT and Teacher change • ICT and Teacher Efficacy
Challenges related to ICT training	<ul style="list-style-type: none"> • Training institution related factors • Student related issues 	<ul style="list-style-type: none"> • Instructor related issues • Limited computer knowledge/skills

The study aimed to explore participants' views concerning their experiences using ICT in their teacher training, as well as their views of integrating ICT into the teaching and learning process. Findings are presented according to emerging themes related to: (1) Significance of Computer courses offered at the training institution 2) ICT integration in education, (3) ICT as a pedagogical tool (4) Challenges with ICT at the training institution.

Significance of Computer Courses Offered at the Training Institution

The theme related to significance computer course offered by the training institution for teachers came up with subthemes related to sufficiency and usefulness of computer courses offered to teachers. More than half [N=35 (87.5%)] of participants indicated that computer courses they took during their course of study at the pre service level equipped them with the basic computer knowledge and skills. This implied sufficiency of computer courses offered by the training institution to support teachers at the foundation level.

ICT Course sufficiency

According to participants, the basic computer applications such as Microsoft word they learned from these courses are sufficient for their academic studies and to prepare their lessons during teaching practice. They were also able to use PowerPoint to vary the instructional material during their practical lessons.

Yes it equips me with the knowledge to use power point which is very important as the teacher needs to change the learning to capture the attention of students... and it help me search for information for whatever is happening globally (p.6.)

As noted earlier, there was an indication that while computer courses offered by the training institution for teachers are sufficient for participants' academic studies however do not place them in a position to guide students into becoming self-regulated learners as noted by P.4 below.

I think it is enough for my assignments at NUS but not enough in the classroom to deepen children's knowledge (p.4).

(Mishra and Koehler 2006) emphasised the importance of teachers being well versed with ICT skills so they will be able to teach the subject content otherwise the teacher will have issues using ICT in their practice.

Value of ICT courses

The question whether they find ICT courses offered for preservice teachers helpful found 33 (82.5%) participants in support of the value of courses they took. The participants deemed ICT course as a personal gain for the individual for a number of reasons. For example, use of power point to present a lesson help students get a better understanding of what is being delivered.

Yes ICT is very helpful because using equipment like computer or laptop also using or data projector to do presentation or the lesson that the teachers teach, it is easy to understand when using the Microsoft PowerPoint (p.34)

Participants also noted the value of computer courses in improving their skills as teachers' as noted in this comment:

It is helpful in that it helps me gain more knowledge to expand my teaching methods for teaching children in the classroom. It helps a lot in teaching lessons in classrooms because we only print out handout and give to students than writing things on the bed. (p.2)

Some participants indicated that the computer courses can help enhance the teachers' teaching approaches allowing them to shift from the more traditional to a more modern manner of delivery

Yes it is very helpful for teachers because it helps a lot for providing handouts to teach the students and it can improve the technology for teachers because some teachers they teach only from the blackboard but they do not use computers to type their school work etc.(p.33).

ICT Integration

In terms of ICT integration more than half of participants 33 (82%) indicated the importance of integrating ICT into the teaching and learning process. Two subthemes emerged from this theme; ICT in relation to globalization as well as ICT for its economic value.

ICT in relation to globalisation

One of the importance of ICT integration in education was connected to the notion of globalisation. Participants' perceived utilisation of ICT from a globalised paradigm where they indicated that use ICT by Samoan teachers puts Samoan teachers on par with the rest of the world concerning pedagogy usage. This notion of ICT as part of globalisation indicate that participants are well supportive of modernisation in terms of ideas and pedagogical skills plus the importance of being on par with the current global changes in education:

Yes it is helpful, as you can see the world is moving forward ...is computerised. We need computer to type our assessments and to access to other things in the internet (p.9).

Economical value of ICT

What is interesting to note is the manner in which a number of participants viewed ICT utilisation from an economic perspective. For instance, several participants opined that it is more economic to use internet when searching information for their academic studies:

Yes it is very helpful in many ways ...besides computers help to find information and it is free on internet (p.20).

One can very well understand the importance of associating ICT to economic value especially given the socio economic background of the participants. The majority of participants hail from an average socio economic background. Thus the importance of attaining free resources is understandable.

Pedagogical Value of ICT

The question in relation to ICT as a pedagogical tool for teachers was perceived positively by a high number of participants 33 (82.5%). Two themes ICT as a teaching tool and ICT with respect to teacher growth emerged. A number of categories were also developed under this theme and subtheme as will be highlighted.

ICT as a Teaching Tool

Participants seem to view ICT as a resource to enhance creativity on the part of the teacher. In such manner, ICT is viewed as a tool in the hand of the teachers to pass knowledge on to students. This is as opposed to ICT in the hand of the student to construct own learning and the teacher as a guide.

Yes. ICT can be used as another teaching method to teaching subjects within schools. It can be a new technique as opposed to the traditional way where paper and cardboards are used by students to write their work [P40]

For some participants, ICT is connected to resource development for example, these participants indicated that teachers need to develop ICT skills so they will be able develop teaching resources:

Teachers really need ICT because it helps teachers develop their notes on printer and photocopies and no more writing on brown paper and blackboard p.34.

ICT and Teacher Growth

Four categories-creativity and critical thinking, ICT and teacher change, ICT and teacher efficacy, emerged as related to this subtheme which will be discussed. The importance of having Computer knowledge to aid integration of ICT in teaching and learning was highlighted by (Mishra and Koehler 2006). This aids teachers in their professional development. Generally, mostly all participants acknowledged the important value of ICT to enhance teachers' professional skills and knowledge as noted in these statements:

Yes because it really helps to improve teachers teaching techniques which they can apply in communicating and cooperating with the students. It can help encourage children in their learning (p.13)

Creativity and Critical Thinking

A number of participants perceived the importance of gaining ICT knowledge and skills in relation to developing teachers' creativity.

... Pedagogical works together with ICT because ICT involves your use your critical thinking in how to be creative in working and solving problems (p.6).

According to the literature (Lu et al. 2010) ICT can afford teachers and learners with more educational possibilities-this could allow room for teachers to be creative. In addition to ICT enhancing creativity, participants also associated ICT knowledge with the idea of critical thinking:

... Teachers need ICT to help with their lesson presentation in addition to creating something new inside the classroom. This is another way to develop their thinking in lesson demonstration (p.15).

ICT and Teacher Change

The value of computer courses was viewed from the notion of change. i.e., participants stressed the importance for teachers to adapt to new changes especially given numerous educational reforms that are introduced within the educational arena. Participants acknowledge the importance of being familiar with new ways to address the learning needs of students in the classroom:

Nowadays, children have access to ICT and teachers should adjust to these so that they can teach students in a way that they will learn (p.3).

This participant saw it as adapting to new ways of teaching. For example when asked about her views regarding integrating ICT into teaching and learning this participant pointed to the importance of adapting to new changes:

"It is crucial for teachers to adapt to new changes such as integrating ICT into their teaching" (p.26)

ICT and Teacher Efficacy

Integration of ICT into teaching was also perceived from the stand point of effectiveness. For instance participants saw ICT as an invaluable support for instructional activities in the classroom.

By using ICT we will use examples via pictures so that students can understand what our lesson is about every teacher should have many styles of teaching because it denotes an effective teacher. Using ICT when teaching is another method that can be very effective when teaching a lesson. (p.36).

These accounts seem to imply that the old style of classroom instructions such as chalk and talk are ineffective compared to when ICT is integrated into the teacher's instructional activities. While ICT was applauded in terms of effectiveness' sake it was also acknowledged in relation to efficiency

I think ICT course for teachers is so helpful. This is because computers is a useful technology that we are now using to gather and record information rather than using hard copies records. It is easy, fast reliable for researching and for gathering and storing information. (p.38).

Challenges with ICT Integration

Although participants were enthusiastic and positive about the value of integrating ICT into teaching, they also highlighted a number of challenges. Challenges that were identified were placed under two subthemes related to the *training institution* as well as to *students*.

Training institution

Infrastructure

Issues that pertained to the university include quality of infrastructure More than half participants pointed to inadequate computer labs available for students. This scarcity led to over crowdedness and thus affected learning. For example, participants mourned that many times they had to wait their turn to access a computer and if they were able to access a computer, they would find the computer in very poor condition. For example, the system would be very slow and it takes time for the student to log in.

Sometimes I have to wait half hour before I can get onto a computer and If I do it takes time to access (p13 , p23,)

What is worthy to note is that majority of students who enrolled into education programs do not own a computer and the only source of information for them is the university computers. Thus if the computer system is problematic it can greatly affect students' studies. In addition to the issue of computer availability is the internet access problem. According to the participants, the internet is mostly down which in turn impact on students own study schedule as they had to rush to other classes. In most cases by the time the computer was effectively activated it is time already time for students' the next class as this participants commented:

"... Most of the time we come need to use a computer, we find computers in the lib not working or the internet is so slow, it takes hours but we need time for other classes". (p18).

This dilemma is something that the training institution really need to address.

Student Related Issue

In addition to issues connected with the training institution, there are also issues that pertained to students which include limited computer knowledge as indicated here:

I did not take any computer courses. Am still trying to familiarise myself with strategies in need to do my assignments. (p.28)

Lack of computer knowledge can definitely affect one's confidence in using ICT as this participant stated:

I don't understand how to use some keys sometimes when finding information (p.19)

The same feeling of uncertainty was mentioned by other participants which can inhibit ICT integration into the teaching and learning situation. This participants in response to the question concerning challenges she encountered in ICT training answered:

Being scared and nervous being my first time [p5]

The literature (Mishra and Koehler 2006) noted that this lack of knowledge can affect one's confidence which in turn affect integration of ICT in the classroom

ICT Instructor Related Issue

Besides student related issues, some participants also raised concern about the pedagogical skills of the computer instructor. For example, some participants seemed to struggle with trying to understand the instructions provided by the tutor.

The system is not good. Most of the time the computer lecturers are strict in teaching this course. Lecturers should have enough computers skills and there should be enough computers. (p29)

Discussion

The current study aimed at exploring views of preservice teachers on how ICT courses offered at the training institution prepared them for the teaching profession. Furthermore, the study aimed to find out participants' views regarding the use of ICT as a pedagogical or instructional tool.

Findings indicated that courses offered for preservice teachers are sufficient and useful to perform their academic studies which include utilization of PowerPoint for lesson presentations, and internet to research information.

Findings also highlighted that ICT courses are important in a number of ways. For example, with regards to teachers' professional development, it was indicted that teachers need ICT courses in order to enhance their teaching (delivery) performance.

Integration of ICT in teaching and learning was also connected to work efficacy. For example, computers can help save time for student teachers as well as practitioners in developing and planning teaching and learning resources. In Samoa, availability of teaching resources has always been an issue in most classrooms (Tufue-Dolgoy 2012) where it is not uncommon to see an average number of 50 students to one teacher. One may therefore argue about the importance for teachers having a good grasp of computer knowledge and skills for this can lead to efficiency on the part of the teacher. With regards to ICT as a pedagogical tool it appears that the majority of participants view ICT as a 'resource' and not as a 'pedagogical tool'. Participants made reference to the importance of teachers having a good understanding of ICT so they will be able

to teach students. Making reference to teachers' ability to use power point and other computer application for their class presentation seem to suggest that participants view the use of ICT skills or computer skills for their own professional development i.e. so they will be able to deliver effectively in a creative manner. When use of ICT is viewed as a teaching resource or a tool in the hand of the teacher for instructions deliverance, it implies the old traditional teacher centered style of teaching approach. Over the years, the prevailing traditional 'chalk and talk' type of classroom instruction was more teacher centered type with the teacher being in control of classroom instructions. In this type of situation, the teacher was the sole transmitter and learner the recipient of knowledge. The literature with reference to ICT as a pedagogical tool positions the teacher at the role of a facilitator guiding the learner. This implies that the learner constructs his/her own learning– a student centered type of approach. (Castro Sánchez and Alemán 2011) highlighted the importance of ICT in transforming a teaching environment into a learner-centered one. This is because the learners are highly likely to be actively involved in the learning processes. This constructive notion of learning as it relates to teachers' ICT skills was not indicated in this study. As already noted, participants perceived the importance of developing computer skills so they can present power point presentations for the learners. This implies transmitting information to students suggesting that the teacher is still very much in control of the teaching and learning situation i.e., construction of information is still very much lies with the teacher. This is in stark contrast to the situation where students contract their own learning. Teachers of the 21st century should be facilitator as opposed to being just a transmitter of knowledge (Coleman et al. 2016).

It is crucial that students are given the authority by the teacher to make decisions and planning using the computer skills that students may have already (Lu et al. 2010), as in such manner the learner is very much in control of the learning situation. At the same time this type of approach will provide both teacher and learner with more educational possibilities (Lu et al. 2010). If one aims for a more student centered classroom (an idea that is also promoted in several Samoan education documents and policies), the importance of getting teachers to be knowledgeable in using ICT as well as getting their students to use it themselves to solve their learning problems cannot be overstated. Therefore integration of ICT in teacher education can make this possible for in this type of situation, the focus will then shift from the teacher to students, where the student becomes the focus of the teaching and learning process (Coleman et al. 2016).

Participants highlighted some challenges which pertained to the institution as well as to students themselves. These issues need to be addressed by the institution if it aims at producing effective teachers for the future.

Limitations

A number of factors may have skewed part of the findings especially in connection to teachers' perception of ICT as a pedagogical tool and as a resource. For example, in the current study, the researchers failed to delineate for participants' the concept of ICT as a tool in the hand of the teacher (for teacher usage) or in the hand of the learner (for learner usage). We believe that if the researchers had clearly clarified this from the outset, a different picture could have emerged.

Findings clearly indicated participants' limited knowledge of ICT which could have influenced their own responses. Teachers' perceived limited knowledge could be due to the fact that the majority of participants of the current study do not own a personal computer– their only access to a computer is at the university.

These anomalies seemed to suggest that participants' have not the adequate understanding of technological knowledge on which to base their narratives. This may have affected their own interpretation of the question related to ICT as a pedagogy tool as well as ICT integration into teaching and learning. According to (Mishra and Koehler 2006) a teacher with good technology knowledge (TK) is highly likely to integrate technology into their classroom instructions. However, according to the findings a number of participants do not seem to have this TK as noted here:

Yes, sometimes I don't understand how to use some keys when using the computer to find information (p.19)

It is imperative for the training institution to ensure that teachers computer skills are developed so that they are in a better position to act as facilitators and not mere transmitter of knowledge in the teaching and learning context. (Mishra and Koehler 2006) viewed the knowledge of technology and content as reciprocally related. They emphasized the importance for the teacher to have both a good knowledge of the subject matter as well as knowledge of how the subject matter can be utilized through the technological application.

Conclusion

The current study indicated that participants have some ways to go in understanding and using ICT skills in the classroom; so the learning environment will be more student centered with students constructing their own learning. The study indicated that participants viewed ICT as useful in relation to teachers' professional development. While there is rationality in this perception, the challenge however is; the teacher is still placed in the center of the teaching and learning process. This seems to contradict with the more student centered approach to teaching and learning which has been promoted in education policies over the past two decades.

There is a grave need for teachers to understand how to integrate the modern day technology, into their teaching and learning so the approach to learning become more constructive resulting in self-regulated learners. In this respect the teacher will be more of a facilitator and a guide as opposed to just being someone to communicate knowledge to students.

What is worth considering however is the fact that teachers cannot turn into a computer savvy on their own. They need to be exposed to relevant and appropriate computer programs if they are to be professionally prepared. Therefore, the training institutions need to offer appropriate and relevant ICT programs for teachers to develop their ICT skills. Furthermore, the training institution should look at improving computing facilities/ infrastructures as well as improving skills of tutors to effectively support students in their academic pursuit.

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The Gender Gaps in Foundation-Level Mathematics Performances at the National University of Samoa: An Exploratory Analysis

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Abstract

Investigating the gender gaps in mathematics scores is used by maths educators and researchers to gain a deeper understanding of students' performances. This exploratory study analyses scores in mathematics courses offered in the National University of Samoa Foundation programs. Using statistical tests to understand the nature and extent of the gender gaps in performances, the results show that while females dominate enrolment numbers, overall performance in terms of marks is dominated by males. The study concludes that more research is needed and critical in unearthing relevant evidence to inform policy and strategies to support maths learning of both male and female students.

Keywords: Mathematics performance, gender, Samoa

Introduction

Examining gender gaps in mathematics scores is a common approach used by maths educators and researchers to gain a deeper understanding of students' performances. Historically, persistent patterns of boys outnumbering and outperforming girls in science, technology, engineering, and maths (STEM) subjects are identified (Lee and Burkham 1996; Hill et al, 2010). Recent assessments show that in some countries, the gap has narrowed substantially and a reverse situation favouring girls exists (Cappelen et al, 2019). These patterns are concerning to education planners, policymakers and researchers interested in gender and social equality. In Samoa, existing studies point to poor performances in maths across primary and high schools and pre-degree levels at the NUS (Afamasaga-Fuata'i, 2002; Government of Samoa, 2020). However, applying a gender lens to examining such performances does not exist. For Foundation maths courses, there is no published analysis on scores and what they portray. Broad trends based on aggregated data are known but these do not fully recognise possible implications for unique challenges experienced by boys and girls in maths. The assumption that aggregated results are gender-neutral and unproblematic needs to be examined.

Three questions underpin the current analysis: *What do the gender gaps in students' marks in maths look like? What do the gender gaps in maths scores suggest? What are the implications of the gender gaps for future research?* Drawing on Foundation maths scores between 2015 and 2019 and my own experience as a maths educator, the analysis applies a gender perspective to reading and interpreting enrolment numbers and scores, and applying statistical tests to confirm initial interpretations. My interest in the gender gaps in students' performance stems from an intellectual curiosity about gender and maths, in particular wanting to know if the literature parallels the situation in Samoa. The analysis indicates that (i) the gender gaps favouring female students in terms of enrolment and total pass numbers exist; (ii) the gender gaps suggest that in terms of the overall performance, male students dominate and, (iii) there is significant potential for in-depth research in this area.

The article has four sections. Section one focuses on the literature review. Section two discusses the methodology including the data, data source, and the analysis process. Section three

presents the results and their discussion. This is followed by the concluding section with an emphasis on the results implications for future research.

Literature Review

A growing literature on gender and STEM subjects at school and tertiary-level education has attracted the attention of not only gender scholars but also maths educators. As noted earlier, part of my own curiosity and interests in the subject comes from this literature. As a state of wonder, intellectual curiosity is about seeing opportunities for intellectual engagement, acquiring facts and knowledge, or simply the 'drive to know' (von Stumm et al, 2011). This 'drive to know' about the gender differences in the NUS Foundation maths scores has led to this article. Drawn to stimulating research by maths education researchers (for example: Gill, 1997; Forgasz and Leder, 2017; Myers et al, 2019; Przybyla-Kuchek, 2020), I was keen to explore what the situation looks like with the NUS Foundation students' performances and implications for future research.

A broad context to performances in Foundation maths was noted by Afamasaga-Fuatai in the early 2000s. She argued that there was a direct impact of poor primary and high school results on Foundation and degree levels performances. Her 2002 analysis gives a daunting picture of school maths results in the latter half of the 1990s, arguing that students' performances worsen as they move from primary through to secondary level. Furthermore, "[f]or those entering pre-degree programs at NUS, their weak understanding and ineffective application of fundamental principles to solve problems permeate their study of mathematics and impede their abilities to cope with more advanced mathematics" (Afamasaga-Fuata'i, 2002, 6). She points to a major consequence of this trend that

the prescribed two semester curriculum to prepare them for university studies is severely comprised as time is taken out for remedial work. Most of the misconceptions at this level are well ingrained and often difficult to overcome in the first semester without some sacrifices for both student and lecturer for extra work outside of scheduled class time.

The acknowledgement of the problem some twenty years ago was accompanied by a clear call for research as part of the NUS's effort to rectify poor performance and high failure rates in maths (*Ibid.*, p. 9). Although a specific gender gap analysis was missing, reference was made to the fact that "[g]ender performance in Samoa in terms of grade averages show that boys consistently do better than girls over the years" (*Ibid.*, p.4). As commonly known, STEM subjects have historically been male dominated worldwide. Research including that by mathematics education researchers identifies the gender gaps and low numbers of females in STEM education and employment. Australia, for example has a severe imbalance in tertiary enrolments and a similar pattern is identified in many other countries including Samoa (Marginson et al., 2013). In terms of actual scores, boys have historically outperformed girls in maths and science subjects (Hill et al, 2010). The implications of this trend have been that employments in STEM fields have also been dominated by men. From a gender equality perspective, this is an issue of concern and the persistently lower numbers of women in STEM employment is a problem related back to gender related barriers, challenges, and performances in education (Mullet & Kettler, 2017).

A recent Samoan government report however notes that "The numeracy level for females at year 6 is low but stable and decreased for males with only 4 out of 10 male students showing proficiency in numeracy compared to 6 out of 10 for females." (Government of Samoa, 2020, 62). Compared to the situation in the late 1990s where boys were consistently high achievers in maths,

the current one is a reverse trend with “girls outscoring boys at all levels of primary and secondary schools” (Ibid. p. 62). Consequently, “the most pressing challenge” for educators is “the poor results for boys in terms of enrolment and secondary and tertiary levels and the quality of education outcomes at all levels of education in particular in secondary level especially for boys.” (p. 63). As experienced in other countries, these trends are often regarded as a symptom of the so-called ‘boy crisis’ (Cappelen et al, 2019). Proponents argue that this symptom has significant implications for potential inequalities and decreasing labour market participation among men. Echoing earlier calls for research, a Samoan Government 2020 report strongly emphasises that “research into the underlying causes of these trends is urgently needed.” (p.63).

Responding to the call for research, this article uses a gender disaggregated approach to students’ scores in Foundation maths and statistics. This is important because while the magnitude of female enrolment and numbers passing maths is said to have improved over the years, there is limited analysis on the levels of scores, and what these might mean. In addition, virtually no evidence exists on the completion rates of girls taking Foundation maths or science programs especially in terms of degree completion, or jobs they eventually take or end up in. It is these dynamics and broader implications of the gender gaps on girls’ employment in STEM fields that continue to draw researchers’ attention to their disadvantage in maths (Stoet and Geary 2015).

The value of examining the gender gaps in students’ scores lies in at least two areas (i) specifying exactly which group of students is experiencing problems and performing poorly in maths and, (ii) identifying potential relevant support for struggling group(s) of students. From the perspective of gender and maths scholars, applying a gender lens to students’ performance in STEM subjects interrogates and potentially address structural barriers to succeed particularly for girls who have been historically outperformed by boys. Generally in Asian and African developing countries, the gap is explained by differences in women’s role in society as proxied by the fertility rate in a country (Gevrek and Gevrek, 2018). Often associated with reduced career opportunities, gender differences in achievement are high-risk issues.

At the tertiary level in Samoa specifically at the National University of Samoa (NUS), one of the compulsory requirements for undertaking studies in science, IT or mathematics regardless of their major, is a pass in SSLC Mathematics as this would allow students to enrol in the Foundation Certificate of Science. Bridging courses however are available on offer for students with a SSLC maths pass of between 40 and 49 who wish to pursue Science, IT or maths majors. While the compulsory requirement (pass in SSLC maths) highlights the significance of a strong mathematics background in pursuing STEM majors at Foundation and degree levels, it is potentially a contributing factor to why students distance themselves from or are afraid of pursuing STEM studies. Other maths courses are also offered as part of the Preliminary Certificate in Technical Vocational Educational and Training program (PCTVET). As noted in the 2021 NUS Calendar, the PCTVET program “aims to provide tailor made second chance open formal learning opportunities to the disadvantaged youth and adults who intend to pursue further studies at the Post School Education and Training (PSET) level in Samoa.” Potential students for the program should possess at least Year Ten English and Maths. Maths results for PCTVET however are not included in this study.

In this analysis, there are two areas of focus and interest: a persistent imbalance in Foundation enrolment numbers favouring girls and, a more interesting situation with performance outcomes of boys and girls as indicated by 2015-2019 maths scores.

Findings that point to the dynamics of the above areas of focus are derived from a combination of data reading, my own experience as a maths educator and statistical tests and analysis. Given its limited scope using secondary data only, the analysis is exploratory. As such any conclusions drawn would be preliminary and speculative. This however does not invalidate the approach taken and its value in drawing attention to the gendered nature of performances in maths. As an exploratory work, this analysis also serves as an impetus to future in-depth investigations on the subject.

Methodology

Data

The analysis uses sets of secondary data of Foundation students' enrolment numbers and final scores in maths and statistics courses between 2015 and 2019. The courses are: HMA010, HMA020, HMA030, HMA071, HMA072 and HST050¹. Enrolment numbers and a breakdown of marks by gender were obtained from the NUS Student Administration Office. A five-year focus was determined by the available yearly data that can provide some indication of the gender gaps in maths. It is hoped that the 2015-2019 data would provide a window of possibilities for future in-depth research.

Analysis

The analysis focuses on the gender gaps in Foundation program enrolment numbers and in the performances as indicated by maths scores. Enrolments can indicate what the gender gap looks like with raw numbers. Performances can reveal another side of the gender gap that enrolments alone do not show. As a caveat, however, the presence of the gender gaps should be read as just that. This is because examining factors influencing the gender gaps is beyond the scope of this analysis.

The analysis was guided by the three research questions: *What do the gender gaps in students marks in maths look like? What do the gender gaps in maths scores suggest? What are the implications of the gender gaps for future research?* The analysis had three steps. First, a straight-forward reading of the gender differences by enrolment was made using raw enrolment data provided by the NUS Student Administration Office. The enrolment numbers used included all students enrolled at the beginning of each semester for the five years. Students with a final grade of W, DNC and DNS were excluded from the analysis². Second, a reading of students' scores using the provided gender-based data was done to identify the gender gaps in the pass rates and failure rates for the five-year period. In maths the pass mark is 50/100 and above. The pass rate for girls in each maths course per year was calculated by adding the total number of girls who passed divided by the total number of girls in the course. The same process was followed in calculating the pass rate for boys.

The third part of the analysis aims to confirm the *extent* of gender-based differences in maths scores by course and by program. Statistical testing was applied using the Real Statistics Resource Pack Tool on Excel. In the analysis, maths scores represent students' performances. Thus, gender-

¹ HMA010- Foundation Algebra; HMA020- Foundation Calculus; HMA030-Foundation mathematics; HMA071-Foundation General Maths 1; HMA072- Foundation General Maths 2; HST050-Foundation Statistics

² W=withdrawn; CR=Credit; DNC=Fail:Did not complete 10 percent or more of coursework; DNS=Fail: Did not sit exam

differences in scores represent the differences in the performance of boys and girls across the courses or programs. Generating a descriptive statistics report was done for over 3800 student marks from the six math courses across the five-year period. Descriptive statistics confirms the difference in the mean scores of males and females and includes standard deviation, variances and confidence intervals. To establish the significance of gender-based differences indicated by the mean scores, inferential statistics was generated using t-test, one-way ANOVA and two-way ANOVA. The findings and discussion for both enrolment numbers and marks analysis are presented in the next section.

Results and Discussion

What do the gender gaps in student numbers in maths look like?

Reading of Enrolment Numbers

There were consistently more females than males enrolled in our main Foundation maths and statistics courses over the five-year period as shown in Table 1. This mirrors a similar trend for all program enrolments at the NUS as demonstrated in Table 2. As noted in existing studies, the overall dominance of female enrolment at the NUS is likely a ripple effect of national schools' enrolments particularly at the high school level.

Table 1: Foundation maths courses enrolment numbers by gender, 2015-2019

Gender	2015	2016	2017	2018	2019
Female	448	430	297	290	292
Male	237	231	134	137	127
Grand Total	696	661	431	427	419

Table 2: Total NUS enrolment numbers by gender, 2015 - 2019

Gender	2015	2016	2017	2018	2019
Female	2011	2209	2204	2146	1679
Male	1351	1340	1206	1194	871
Grand Total	3362	3549	3410	3340	2550

Despite female dominance in NUS enrolments, data disaggregated by program indicates that apart from Foundation and degree levels, much higher male enrolment numbers are a common feature of PCTVET programs. Table 3 shows an example of this for 2016 and 2018 academic years. Certificates offered at PCTVET focus on marine studies, welding, automotive, construction, machinery and plumbing continue to be male dominated. However as mentioned earlier, entrance in these certificate programs require at least Year 10 maths background.

Table 3. Selected PCTVET program enrolments by gender, 2016 and 2018

Trade Certificate	2016		2018		
	Female	Male	Females	Males	
NatTradeCertIIWel	2	12		10	Welding
NatTradesCertIIAut		20	1	14	Automotive
NatTradesCertIICJ		19	2	11	Construction & Joinery
NatTradesCertIIEI		7		6	Electrical
NatTradesCertIIFM	1	10		6	Fitting & Machining
NatTradesCertIIPi		13		2	Plumbing
NatTradesCertIIRA	2	16		7	Refrigeration & Aircon
Certificate					
CertIIMarTrain	1	6		5	Maritime Training
CertIIMarTrain(ME)	1	23	4	24	
CertIIMarTrain(N)	5	81	14	79	
CertQualFishingDeckHand,	1	18		19	
CertTropHort	12	14	16	6	
Diploma					
DipRad&EI	4	14	7	11	Radio & Electronics
TOTALS	29	253	44	200	

Although females enrolments dominate across the Arts, Commerce, Education and Nursing degree programs, their numbers are much lower in Science and TVET degree programs (Table 4). This reduction in female numbers gives a glimpse of how female students tend to drop out of typically STEM-programs and courses as they progress from foundation to degree levels. Proving this point however is beyond the scope of this analysis.

Table 4. Some Bachelor degree program enrolments by gender, 2015-2019

Programs	2015		2016		2017		2018		2019	
	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males
BA	122	64	135	64	135	72	138	67	137	67
BCom	239	115	279	116	296	114	271	114	305	113
BEd(Pry)	196	65	271	80	346	94	326	87	285	74
BEd(Sec)	124	82	131	84	99	64	62	36	37	25
BN	131	28	169	70	203	69	179	61	154	52
BSc	65	69	67	82	74	82	58	72	56	54
BSc(SecTchg)	2	7	6	17	6	13	1	9	2	2
BSS	1	6	6	10	8	17	8	16	9	17
BTVET	3	4	3	5	3	15	0	16	1	11

Reading of Foundation Math Courses Enrolment Numbers

Foundation program enrolments by gender are given in Table 5. The data shows that overall FCG recorded the highest student numbers between 2015 and 2019, ranging between 111 to 386, with an average of 241 students. The second highest program was FCA with enrolments between 100 and 200, and an average of 152 students. In the same period, female students outnumbered males by roughly an average of about 35%. The third highest student numbers were in FCS with an average of 120 students, followed by FCE with an average of 113 students. Followed closely behind these was FCC

with an average enrolment of 93, and FCN with an average enrolment of 90 students. Except for FAg, the average enrolments of female students outnumbered males in all programs in the five-year period.

Table 5. Foundation program enrolments by gender, 2015 - 2019

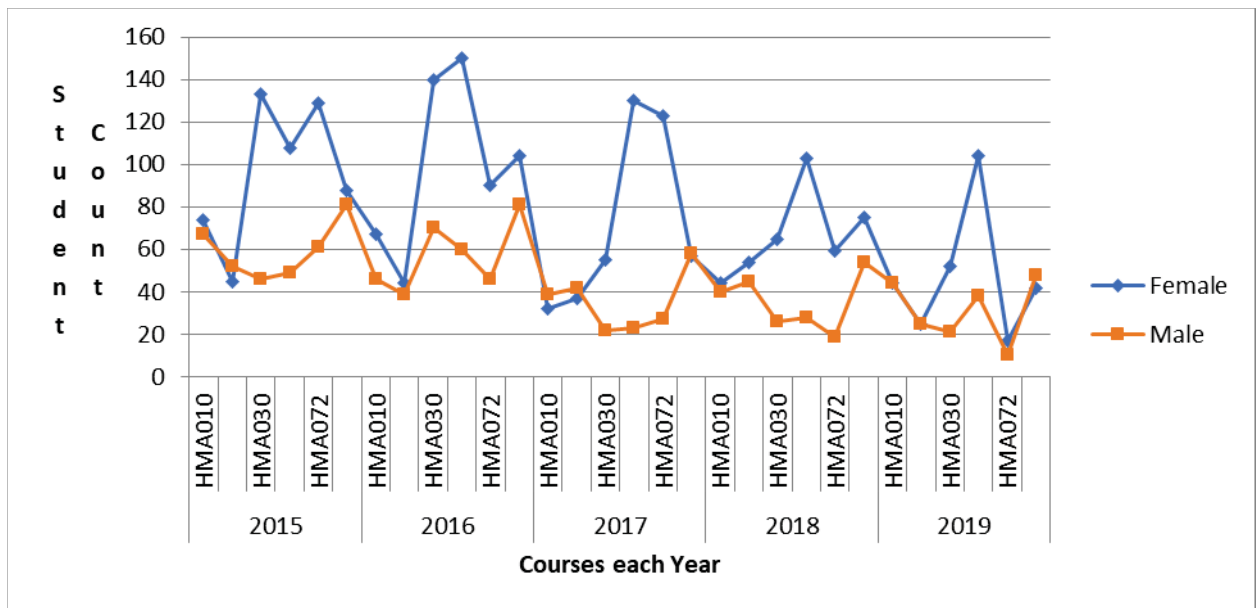
Program	2015		2016		2017		2018		2019	
	F	M	F	M	F	M	F	M	F	M
FCA	128	45	127	72	72	27	101	43	129	40
FCAg	6	7	1	4			1			1
FCC	113	24	80	24	60	16	70	27	39	17
FCE	163	82	160	75	23	7	31	7	17	8
FCG	63	48	138	83	254	132	220	127	102	64
FCN	85	32	71	17	57	24	74	19	52	17
FCS	78	70	87	65	50	41	65	53	50	48
Total	636	308	664	339	516	247	562	276	337	141

In terms of enrolment numbers in maths and statistics courses, there is no doubt that female numbers are higher as shown in Figure 1. Three courses with consistently higher numbers of female students across the five-year period were HMA030, HMA071 and HMA072. When aligned to program enrolments for each year, it appears that relatively large enrolments in FCG and FCA would have had greatly influenced the numbers in the three courses. Also, all FC (Education) students would have enrolled in HMA071 and HMA072 given that the two courses are compulsory for the program. The two are also electives for FCG. HMA030 is an elective course for FC (Commerce), and if students in these programs also took maths thus influencing higher numbers in this course.

By comparison, the HMA010, HMA020 and HST050 courses experienced similar male and female student numbers across the five years, with each course's total enrolment numbers featuring much less than those for HMA030, HMA071 and HMA072. Nonetheless, female numbers continued to exceed males in all of the six courses. HMA010, HMA020 and HST050 are necessary electives for students to graduate in FC (Science) and FC (Commerce) – two of the few programs with enrolment numbers fluctuating between 55 and 90 in the five-year period.

Besides the overall dominance of female students as a key influencing factor in maths enrolment gender gaps, not much is known about other possible factors. From my own view as a maths educator, girls' increased interest in maths and related subjects, advanced reading and literacy abilities, and parental support through provision of paid maths tutoring services in high school levels could be possible determinants. However, as noted before, these require primary research to ascertain.

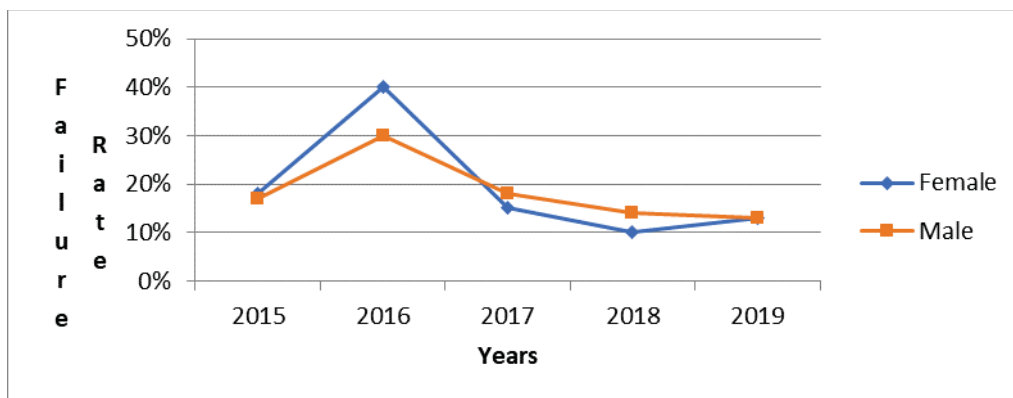
Figure 1. Foundation maths and statistics enrolment counts by gender, 2015-2019



What do the gender gaps in maths scores suggest?

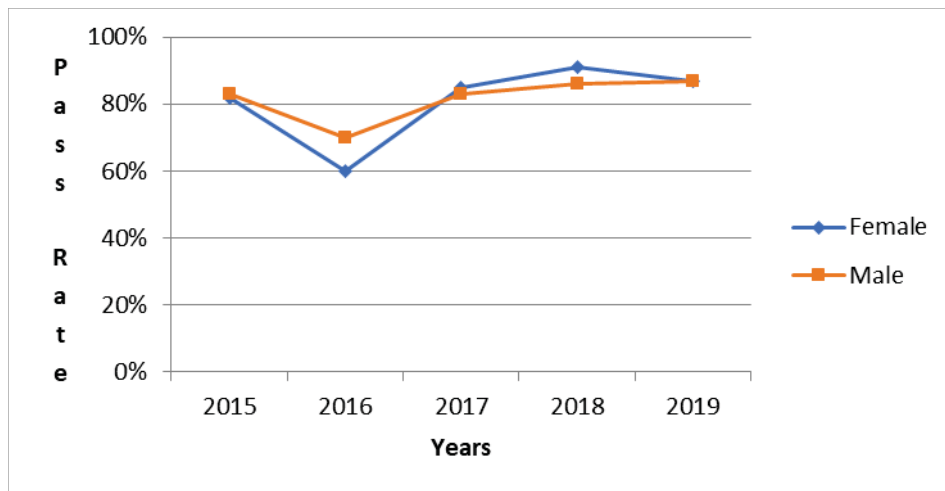
To answer the second research question, the gender-gaps in performances are examined. Taking only raw numbers of failing and passing students reveal the results as shown in Figure 2. On average for the five-year period, the failure rate for female students is 19%. This means that of all females enrolled in foundation Maths across the 5 year period, 19% of them fail compared to 18% of male students. A one percent gap is detected here. This result suggests that with more females taking maths, more of them are also failing compared to male students.

Figure 2: Failure rates in all Foundation maths courses by gender, 2015-2019



In terms of the pass rate, the average for the five years was 81% for females and 83% for males. These are encouraging results which suggest that the majority of our students are passing maths at foundation level. It also shows that the pass rate of 2% marks a narrow gender differences in performance with a marginal lead by males.

Figure 3: Pass rates in all Foundation maths courses by gender, 2015 - 2019



Applying Statistical Analysis to Confirm the Initial Results

As seen above, a straight-forward reading of students’ marks shows that the gender gaps do exist in student performances. But how significant is the gender gaps? To answer this question, statistical tests and analysis were conducted and an alpha level of .05 was used across the tests.

a. Determining the significance of means difference by Gender only.

Generating a descriptive statistics report was done for about 3800 student marks from the six math courses across the five-year period. As in Table 6, a difference in mean mark values is shown with females’ average mark of 59.64 with a 95% confidence interval(CI) of [58.73, 60.55]. The average mark for males sits at 62.80 with a 95% CI of [61.92, 63.68]

Table 6: Descriptive Statistics

<i>females</i>		<i>males</i>	
Mean	59.64105	Mean	62.8026316
Standard Error	0.464326	Standard Error	0.4475893
Median	60	Median	63
Mode	50	Mode	50
Standard Deviation	20.2395	Standard Deviation	19.5099654
Sample Variance	409.6373	Sample Variance	380.63875
Kurtosis	-0.44833	Kurtosis	-0.3162233
Skewness	-0.28063	Skewness	-0.3527246
Range	99	Range	93
Minimum	0	Minimum	6
Maximum	99	Maximum	99
Sum	113318	Sum	119325
Count	1900	Count	1900
Confidence Level(95.0%)	0.910643	Confidence Level(95.0%)	0.8778184

b. Applying a t-Test

The gender gap in mean marks identified in the descriptive statistics does not tell if the gap is of significance. To confirm this, it was necessary to perform a t-Test. The test takes the null hypothesis

that the females and males mean marks are the same. The alternative hypothesis is that the mean values differ. The test produced the results in Table 7.

Table 7. tTest Results

t-Test: Two-Sample Assuming Equal Variances		
	<i>females</i>	<i>males</i>
Mean	59.64105263	62.80263158
Variance	409.6372817	380.6387503
Observations	1900	1900
Pooled Variance	395.138016	
Hypothesized Mean Difference	0	
df	3798	
t Stat	-4.902204521	
P(T<=t) one-tail	4.93647E-07	
t Critical one-tail	1.645254928	
P(T<=t) two-tail	9.87293E-07	
t Critical two-tail	1.960588791	

The t-Test results confirm the mean marks from the descriptive statistics and as the p-value of 0.00 (two-tailed) is less than .05, the null hypothesis is rejected. This highlights there is a significant gender-based difference in Foundation maths performance with males having a higher mean score.

c. Applying a One-way ANOVA

A gender gap is prominent from the t-Test but perhaps the courses that students took may have also influenced their final mark. A one-way ANOVA was performed to compare student mean marks across the Foundation math courses. A Tukey's HSD test was included as part of the ANOVA, to highlight which courses differ significantly. The ANOVA takes on the null hypothesis that there are no differences in the mean marks across the courses, while the alternative states there is a difference in the mean values for at least two courses. The results are shown in Table 8.

Table 8: One-way ANOVA & Tukey's Test to compare mean marks by courses

ANOVA: Single Factor									
DESCRIPTION				Alpha		0.05			
Group	Count	Sum	Mean	Variance	SS	Std Err	Lower	Upper	
HMA010	150	9564	63.76	395.8212	58977.36	1.667008	60.48829	67.03171	
HMA020	150	9239	61.59333	468.1355	69752.19	1.667008	58.32163	64.86504	
HMA030	150	9282	61.88	437.0325	65117.84	1.667008	58.60829	65.15171	
HMA071	150	5992	39.94667	439.3394	65461.57	1.667008	36.67496	43.21837	
HMA072	150	7591	50.60667	392.361	58461.79	1.667008	47.33496	53.87837	
HST050	150	9952	66.34667	368.3354	54881.97	1.667008	63.07496	69.61837	
ANOVA									
Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq	
Between Groups	76335.49	5	15267.1	36.62602	3.39E-34	0.170017	0.494139	0.165221	
Within Groups	372652.7	894	416.8375						
Total	448988.2	899	499.4307						
TUKEY HSD/KRAMER				alpha		0.05			
group	mean	n	ss	df	q-crit				
HMA010	63.76	150	58977.36						
HMA020	61.59333	150	69752.19						
HMA030	61.88	150	65117.84						
HMA071	39.94667	150	65461.57						
HMA072	50.60667	150	58461.79						
HST050	66.34667	150	54881.97						
		900	372652.7	894	4.03				
Q TEST									
group 1	group 2	mean	std err	q-stat	lower	upper	p-value	mean-crit	Cohen d
HMA010	HMA020	2.166667	1.667008	1.299734	-4.55138	8.88471	0.941665	6.718044	0.106123
HMA010	HMA030	1.88	1.667008	1.127769	-4.83804	8.598044	0.967957	6.718044	0.092082
HMA010	HMA071	23.81333	1.667008	14.28507	17.09529	30.53138	1.87E-13	6.718044	1.166371
HMA010	HMA072	13.15333	1.667008	7.890383	6.43529	19.87138	4.78E-07	6.718044	0.644247
HMA010	HST050	2.586667	1.667008	1.551682	-4.13138	9.30471	0.882555	6.718044	0.126694
HMA020	HMA030	0.286667	1.667008	0.171965	-6.43138	7.00471	0.999996	6.718044	0.014041
HMA020	HMA071	21.64667	1.667008	12.98534	14.92862	28.36471	1.87E-13	6.718044	1.060248
HMA020	HMA072	10.98667	1.667008	6.590649	4.268623	17.70471	5.33E-05	6.718044	0.538124
HMA020	HST050	4.753333	1.667008	2.851415	-1.96471	11.47138	0.333767	6.718044	0.232817
HMA030	HMA071	21.93333	1.667008	13.1573	15.21529	28.65138	1.87E-13	6.718044	1.074289
HMA030	HMA072	11.27333	1.667008	6.762614	4.55529	17.99138	2.99E-05	6.718044	0.552165
HMA030	HST050	4.466667	1.667008	2.679451	-2.25138	11.18471	0.406054	6.718044	0.218776
HMA071	HMA072	10.66	1.667008	6.394689	3.941956	17.37804	0.000101	6.718044	0.522124
HMA071	HST050	26.4	1.667008	15.83675	19.68196	33.11804	1.87E-13	6.718044	1.293066
HMA072	HST050	15.74	1.667008	9.442064	9.021956	22.45804	6.44E-10	6.718044	0.770941

The ANOVA reveals that there is a statistically significant difference in student performances between at least two courses as the p-value is 0.00. The Tukey's HSD Test for multiple comparisons found nine pairing comparison with significant mean difference. For example, the mean value of student marks was significantly different between HMA010 & HMA071 ($p = 0.00$, 95% C.I. =17.10, 30.53), HMA010 & HMA072 ($p = 0.00$, 95% C.I. =6.44, 19.90), HMA020 & HMA071 ($p=0.00$, 95% C.I. = 14.92, 28.36) and other courses as marked in the above Tukey's report.

There are however no statistically significant differences between HMA010 and HMA020 ($p=0.94$), HMA010 and HMA030 ($p=0.97$), HMA010 & HST050 ($p= 0.88$), HMA020 & HMA030 ($p = .99$), HMA020 & HST050 ($p= 0.33$), and HMA030 & HST050 ($p= 0.41$).

d. Applying a two-way ANOVA test with Gender and Course

Student marks were also submitted to a two-way ANOVA with 5 levels of courses, and two levels of gender and the below report was produced. The two-way ANOVA starts with the hypotheses that:

- There are no differences among gender mean marks
- There are no differences among the course taken mean marks
- There is no interaction between gender and courses taken.

The results are shown in Table 9.

Table 9: Results of a two-way ANOVA : Mean mark versus Gender, Courses

Descriptive Statistics							
COUNT	balanced						
	HMA010	HMA020	HMA030	HMA071	HMA072	HST050	
females	160	160	160	160	160	160	960
Males	160	160	160	160	160	160	960
	320	320	320	320	320	320	1920
MEAN							
	HMA010	HMA020	HMA030	HMA071	HMA072	HST050	
females	62.34375	64.61875	53.1125	39.98125	50.6875	71.225	56.99479
Males	63.31875	64.1	57.64375	53.525	62.89375	67.9	61.56354
	62.83125	64.35938	55.37813	46.75313	56.79063	69.5625	59.27917
VARIANCE							
	HMA010	HMA020	HMA030	HMA071	HMA072	HST050	
females	461.4723	486.5141	399.5344	372.8613	373.2099	337.2824	508.7351
Males	364.6713	497.9145	325.8283	525.3075	410.2717	360.1912	433.7978
	412.0153	490.7388	366.6936	493.6787	427.8777	350.4161	476.242
Two Factor Anova							
ANOVA				Alpha	0.05		
	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p-value</i>	<i>p eta-sq</i>	
Rows	10019.27	1	10019.27	24.46181	8.24E-07	0.012658	
Columns	103195.3	5	20639.07	50.3898	3.67E-49	0.116646	
Inter	19199.39	5	3839.879	9.374973	7.73E-09	0.023978	
Within	781494.4	1908	409.5882				
Total	913908.4	1919	476.242				

The two-way ANOVA results suggest that the main effect gender was significant with $p = .00$, meaning that the mean value mark for females ($M = 56.99$) was significantly less than that for males ($M = 61.356$). The main effect of maths courses was also significant, with $p = .00$. Both factors therefore have a significant effect on the results of the students and thus we can reject the null hypothesis for both factors. The interaction was significant as well, with $p = .00$, suggesting that the effect of gender was significant across the various courses. The null hypothesis for the interaction was rejected and this suggests that gender and courses do have a combined effect on student performances.

e. Applying a two-way ANOVA test with Gender and Program

Another two-way ANOVA test was carried out to determine if gender and program have significant impact on students' performance (Table 10). The programs with the most numbers of maths students were selected for this test.

Table 10: Two-way ANOVA : Mean mark versus Gender, Programs

Descriptive Statistics						
COUNT	balanced					
	FCC	FCE	FCG	FCS		
females	150	150	150	150	600	
Males	150	150	150	150	600	
	300	300	300	300	1200	
MEAN						
	FCC	FCE	FCG	FCS		
females	61.24	35.54	49.19333	60.11333	51.52167	
Males	65.12667	48.24	53.06667	62.68	57.27833	
	63.18333	41.89	51.13	61.39667	54.4	
VARIANCE						
	FCC	FCE	FCG	FCS		
females	447.1098	322.1695	294.6	432.8126	479.7525	
Males	307.3597	486.3984	344.7606	356.0983	419.4132	
	379.7623	443.3892	322.3743	394.7886	457.4996	
Two Factor Anova						
ANOVA					Alpha	0.05
	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p-value</i>	<i>p eta-sq</i>
Rows	9941.763	1	9941.763	26.5884	2.95E-07	0.021819
Columns	87987.99	3	29329.33	78.43879	2.61E-46	0.164866
Inter	4907.237	3	1635.746	4.374662	0.004513	0.01089
Within	445705	1192	373.9136			
Total	548542	1199	457.4996			

From the above results, the p-value for gender (rows) was .00 thus the effect of gender is considered statistically significant. There were differences between gender means with females have a lower mean mark ($M=51$) than males ($M=57$) test confirms a significant difference.. For programs

(columns), the p-value is also .00 indicating a significant difference between program means for females, ranging from 35 for FCE, to 61 for FCC, and for males ranging from 48 for FCE to 65 for FCC. For the interaction term (Inter), its p-value of .0045 reflects a significant interaction between gender and programs on student final marks.

The results also provide a glimpse into potentially complex dynamics underpinning gender-based performances in Foundation-level maths. Part of this dynamics constitutes variations in the gender gaps defined by two main trends – one where girls dominate enrolment numbers and number of passes per course, and another where boys dominate overall performance in terms of scores. The first trend validates a common narrative in the literature of females outnumbering boys and leading to concerns about a ‘boy crisis’ in Samoa (Government of Samoa, 2020). The second pattern of males scoring higher than girls indicates that despite their lower numbers, male students continue to excel in maths. This however seems to be a less-known ‘story’ that is overshadowed by a dominant narrative about girls outnumbering and outperforming boys in Samoa’s schools and tertiary education.

What are the implications of the gender gaps for future research?

The above results point to the need for more research into gender-based performances in tertiary-level maths. There are important reasons for this. One is that it is not enough for educators and policy makers to focus on results of analysis based on aggregated data on students’ maths performance. Not all students are the same, and by applying a gender lens, one can appreciate the differences that characterise the performances of boys and girls. Globally there is evidence that maths is experienced differently by boys and girls and, depending on the context, different patterns of performances can be observed (Cook, 2018). In Samoa, there is limited research on this thus scrutinising scores by gender can help provide a deeper understanding of students’ performances in and experiences of maths.

The scope of this study limits it to using secondary data. The results have implications for deeper and broader analysis in the future. Qualitative research focused on factors influencing the performances and experiences of male and female students is needed. Relevant interventions to support male and female students learning of maths can be derived when more and clearer evidence is available through qualitative research. At the same time, quantitative analysis could focus on bigger datasets potentially including more NUS courses and programs. These would produce statistically valid and significant findings to also inform potential policy and intervention programs.

The study also has implications for future research focused on completion rates of female and male students in degree level programs. Table 4 gives a glimpse into much lower female enrolment in science and maths degree programs at NUS. This can be regarded as a tip of the iceberg situation as underlying factors responsible for a consistently lower female numbers are not known. Concerns about these patterns include possible lower completion rates among females leading to lower chances of employment in STEM related fields. Overall, the call for more research on possible causes of existing trends of gender-based achievements in maths is timely and necessary.

Conclusion

This exploratory analysis sets out to answer three questions related to the gender gaps in student numbers and performances in Foundation maths courses. Significant gender gaps exist with

enrolment and pass rates consistently dominated by females. While this situation verifies the already existing narratives about girls outnumbering boys, the factors causing this have not been researched. The view that this pattern at the Foundation mirrors that at high school level is widely acknowledged. However, this cannot be the sole influencing factor, thus the need for research is critical. The dominance of boys in overall achievements in maths could serve to restore confidence in their academic ability. To some extent, it raises questions about how performance is measured. Reference to pass rates by gender does not tell the whole story as the outcomes of statistical tests indicate. Given the dominance of boys in maths scores producing an opposite situation to commonly held views, research is also needed to establish firm evidence to inform relevant policy.

This study fills part of knowledge gaps related to the gendered nature of maths performances. Although there is limited literature on the Samoa situation, potential for both qualitative and quantitative analyses is unlimited. For relevant policy to exist, it is critical to unearth more evidence on the gendered nature of performances in maths, implications for university studies completion, and justified employment opportunities for both males and females.

Acknowledgement

I would like to express our deepest appreciation to the Director of Student Services and Administrations at The National University of Samoa, Ms Malosueilefilemu Angeline Alama, for providing the university's students enrolments and results data for this analysis. Faafetai tele lava.

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Addressing Disability Access at the National University of Samoa

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Abstract

The National University of Samoa is immersed with the important task of refurbishing its facilities to cater to the increasing need for disability access. Since its establishment in 1984 and despite diligent efforts, infrastructure has always been an issue for the University due to its limited resources. The emergence of international and national legislations has made it mandatory for workplace and education facilities to cater to the needs of people with disabilities. With the recent movement of inclusive education to cater to people with disabilities, the pressure on the University and its planning and infrastructure is building year by year. This paper provides a brief context of the University's infrastructure development and the challenges it faces in addressing disability access. Additionally, the paper briefly covers on the emergence of international and national legislations on disability access and its contexts and influence to the infrastructure development of the National University of Samoa.

Introduction: Background of the National University of Samoa Disability Infrastructure

The National University of Samoa (NUS) was established by an Act of Parliament in 1984. During this period, the NUS Campus was located at Malifa, the current location of the Ministry of Education, Sports and Culture (MESC) and the Leififi College. The NUS infrastructure at the time only consisted of two separate two-storey buildings, and an adjoining one-storey building in between. The NUS Malifa Campus facilities did not cater to people with disabilities (PWD). This situation was not an issue as the NUS student population during its location at Malifa was quite small with the pool of students drawn mainly from those who passed the New Zealand University Entry examinations from various secondary schools across the country. The NUS during its Malifa tenure primarily offered certificate and diploma level courses through the University Preparatory Year programme. This meant that the NUS student population remained relatively young and likely did not exceed the age of 21. The number of NUS teaching staff remained between 14 to 20 members consisting mainly of full-time lecturers (Groves, 2019 p. 28 -29). The NUS lecturers, during its Malifa tenure, were relatively young for tertiary-level lecturers with the majority being fresh graduates. This meant that the need for disability-friendly facilities was likely low during the NUS tenure at Malifa.

The Government of Samoa initially secured the Japan International Corporation Agency (JICA) to fund and build the new and much larger campus for the NUS in 1986. The campus did not materialise until 1997 when the NUS relocated to its current location, the Le Papaigalagala Campus at Vaivase. The move to the new campus comprised of the NUS merging with the Western Samoa Teachers College (WSTC), which was a government funded institution to train the much needed teachers for Samoa. WSTC brought with them 23 teaching staff forming the Faculty of Education (Groves, 2019 p.35). The new and improved campus built by JICA did not take into account disability access. During this period, the NUS offered bachelor level programmes in Arts and Educations. This meant that the NUS students were now much more mature although still dominated by the UPY programme. The NUS staff members also had a good balance of mature and young lecturers. The need for disability friendly facilities by now

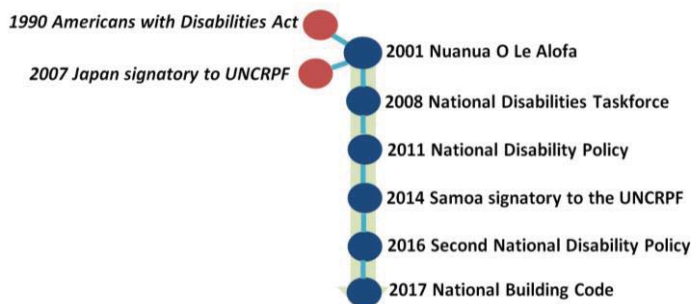
should have surfaced. However, it was not until the Government of Samoa secured JICA once more to build the Le Papaigalagala Campus extension in 2006 to cater to the merger of the NUS and Samoa Polytechnic that the first disability access facilities emerged. Since 2006, the NUS staff and student population has grown significantly. The NUS has also expanded in infrastructure with the construction of the Fale Samoa, Mulinu'u Campus, Culture Centre, Ancillary Building and Moto'otua Campus, which all failed to fully address disability access in design and construction.

Emergence of Disability Access Legislations

Today it is the norm that facilities, institutions and individuals cater to PWD. Catering to PWD has become such a regular expectation in society that people tend to forget how recent the movement for disability access began. The first renowned disability access legislation was only signed in 1990 by the United States President George Bush. This was the signing of the Americans with Disabilities Act at the White House (Mayerson, 1992). President Bush in his signing speech described the occasion:

“With today's signing of the landmark Americans for Disabilities Act, every man, woman, and child with a disability can now pass through once-closed doors into a bright new era of equality, independence, and freedom...” (Mayerson, 1992)

Figure 1: Disability Legislation



Disability access legislation and initiatives in Samoa did not start until the early 2000s and is still struggling to gain effective momentum today with PWD still facing some forms of discrimination (Retzlaff, 2020). In 2001, the Government of Samoa formed the Nuanua O Le Alofa (NOLA), ‘a disability advocacy organization to advocate for equal rights and opportunities for persons with disabilities in Samoa’ (Samoa Bureau of Statistics, 2018 p.12). Seven years later in 2008, the Government of Samoa supported the formation of a National Disability Task Force to oversee the work on PWD. With the establishment of the task force the Government of Samoa conducted a nationwide comprehensive legislative review. As a result, in 2014 Samoa became a signatory to the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD). By 2015 an implementation plan was developed by the Government of Samoa in collaboration with UNCRPD (Samoa Bureau of Statistics, 2018 p.12). By 2016, the Government of Samoa developed the second National Disability Policy and the Disability Disaster Management Policy (Samoa Bureau of Statistics, 2018 p. 12). It was not until 2017 that the National Building Code of Samoa was revised specifically to cater to disability access (Ministry of Works,

Transport and Infrastructure, 2017). This situation clearly indicates that the non-inclusive design and construction of the majority of NUS facilities was merely the lack of national legislation to enforce the incorporation of disability access facilities in buildings. Japan's signing with UNCRPD in 2007 explains why the 2006 Le Papaigalagala Campus extension, led by JICA was designed and constructed to cater to disability access. This action was due to the ratification of the PWD legislations in Japan leading up to 2007 (Mayumi, 2014). The relaxed development pace of Samoa meant that it was only natural that legislations addressing PWD access will come into effect much later than the United States of America and Japan.

United Nations Development Goals and the Development of National Legislation in Samoa

Disability access is incorporated in five of the United Nations Sustainable Development Goals. These include Goal 4: Quality Education, Goal 8: Decent Work and Economic Growth, Goal 10: Reduced Inequalities, Goal 11: Sustainable Cities and Communities, and lastly Goal 17: Partnerships for the Goals. Goal 4 on Quality Education places emphasis on inclusive and equitable education delivery. Goal 4 points out the importance for PWD to have equal access to all levels of education and vocational trainings. Goal 4 also states clearly that education buildings and teaching facilities must be designed and upgraded to address disability access (United Nations, 2020). Samoa's signing with the UNCRPD inevitably means that these goals have to be reflected in the national and sector priorities. On the national level, Samoa has taken various initiatives to collect information and data to inform PWD related legislation and policies. Samoa's National Disability Policy 2011-2016 was launched with the aim to "create a human rights-based, inclusive and barrier free society, which advocates for and empower people with disabilities". The Childcare and Protection Legislation (2013) outlines and details the need to provide necessities of life to a PWD or is otherwise liable to an imprisonment term of up to seven years.

It is unlikely that the initial legislation would have sufficient data on PWD to support policy makers due to its recent intensification and momentum. It was only during their developments that the Samoa Bureau of Statistics incorporated the *Washington Group Extended Set of Disability Questions* in its Demographic and Health Survey to collect disability data. Furthermore, a more recent survey *2016 Samoa Population and Housing Census (PHC)*, incorporated the short set of questions to collect similar information from all households that were surveyed in Samoa at the time of the Census (Samoa Disability Monograph, 2018). Samoa's initiatives to collect data and establish policies looked to equalise the opportunities for PWD as outlined in the *Pacific Framework for the Rights of Persons with Disabilities*, adopted by the 47th Pacific Islands Forum Leaders' Meeting in 2016. By 2018, the Samoa Disability Monograph was developed as an analysis of the 2016 population and housing census, which documents the extent of disabilities and their impact on the lives of people in Samoa. The incorporation of PWD questions in the 2016 census and the release of the Disability Monograph was timely as the results were intended to inform the development of a successor to the National Disability Policy 2011-2016.

Disability in the Education Sector and the National University of Samoa

In response to the national legislation prioritisation of disability access, MESC has developed an *Inclusive Education Policy* that focuses on training teachers to aid in Inclusive Education (IE) principles. The MESC approach is centred at equipping teachers with skills, is to provide support programmes and introduce inclusive education plans for PWD. The ‘number of children with a disability who are enrolled in Government schools’ is one of a few critical key performance indicators (KPIs) outlined by the Education Sector Support Programme. IE principles seek to mainstream students with a disability in regular schools. Through the Education Sector Plan (ESP), the MESC approach was to channel IE principles in levels, starting with early childhood education (ECE) and primary education. As a result, “more students with a disability now participate at primary level, due to initiatives taken during the first ESP, but numbers are still very low at secondary level and in technical, vocational education and training (TVET) levels” (Education Sector Plan 2019-2024).

The ESP 2019-2024 3.2.2 Goal 2 is to ‘provide everyone with access to good quality education and training opportunities’ – this is inclusive of PWD, to have fundamental rights to the same education opportunities. The ESP 2019-2024 emphasizes the need to develop teachers’ capacity to meet IE standards, developing programmes to identify PWD and support them to participate fully in all school activities, and to develop a process to ensure that students with a disability transition from ECE to primary and beyond (Education Sector Plan 2019-2024 p. 33). The ESP also identifies clearly that the inclusion of disability friendly classrooms require appropriate facilities and special resources. In addition to the ESP, MESC launched the ‘Samoa Inclusive Education Handbook 2019’ to support the implementation of the Inclusive Education Policy for Students Living with Disability. Unfortunately, the reality is that the options for PWD to be admitted into post-secondary education training is limited by the lack of facilities and trainers who have the capacity to be able to work with students with special learning needs (Education Sector Plan 2019-2024 p. 17). This aspect requires NUS to step in and take responsibility as the leading tertiary institution in the country.

The NUS Corporate Plan and Strategic Plans 2017–2021 are the two main documents that currently guide the direction of the University. Strategic priorities 2 (Uphold Excellence in Teaching and Learning) and 5 (Creating Universal Design for a Digital Environment) sustain similar wider outcomes to improve inclusive, accessible and quality education. Perhaps, these measures are the extent of the University’s efforts to address learning for PWD. Priority 5 mentions general inclusivity in its’ 5.1.3 Activity; [to] Develop aspects of the educational experience to be more inclusive for students, parents, staff, instructors, administrators and visitors. Similarly, 2.1.3 (c) in the Strategic Plan 2017-2021 urges a revised curriculum that is strengthened to meet the needs of students with a wide range of abilities, learning styles and preferences. Both the Strategic and Corporate Plans lack specific priorities and goals to achieving inclusive education, particularly for PWD where not only the infrastructural needs are discussed, but to align with the ESP to increase the capacity of staff to be able to support learners with a disability.

The Education Statistics

Planning is ensuring that NUS could facilitate towards disability inclusive development and how to support the process of change towards this project. Shown in the Table 1, throughout year 2015 to 2019, the Gross Enrolment Rate (GER) of the Education Sector continues to stay above 70% (MESC, 2019). This figure indicates the number of students enrolled into secondary school over the number of population in the age of 13-17 years old. For NUS, the students enrolled into the programmes from foundation, TVET and higher education are in the age group of 18-39 years from 2015-2019 (NUS, 2017).

Table1: GER in Secondary Education 2015-2019

Year	Enrolment in secondary education			GER %		
	Male	Female	Total	Male	Female	Total
2015	7,980	8,762	16,742	71%	85%	78%
2016	7,967	8,556	16,523	71%	83%	77%
2017	7,803	8,494	16,297	69%	82%	75%
2018	7,702	8,298	16,000	75%	89%	82%
2019	7,767	8,598	16,365	70%	86%	77%

The Table 2 (NUS, 2015 -2017c) shows that the GER in percentage (%) is above 6% and still increasing to 6.8% in year 2018 and 2019. The percentages indicate that the number of students enrolling into both secondary and university is increasing and above the baselines of students enrolled each year. This increase is still predicted to remain despite with the recent Covid-19 pandemic.

Table 2: GER in National University of Samoa 2015-2019

Year	Total	GER%
2015	2887	4.9
2016	2991	5.1
2017	3393	6.1
2018	3522	6.8
2019	3273	6.8

Referring to the latest population survey or Census 2016, in the Table 3 (below), it shows a summary of the percentage of PWD, or a person that encounters the degree of difficulty in the functioning domains (i.e. Seeing, Hearing, Mobility, Memory, Self-care and Communication) in gender and age group. For functioning domains, regardless of the age group 50+, the young age of 5-17 years old has the majority population in the domain of memory, self-care and communication, however they also have the highest rate of “cannot do at all” for communication with a 33.4 compare to the age group 18-49 with 30.2 percent. Nevertheless, the age group 18-49 also has the highest number total for “cannot do at all” category for the rest of the functioning domains (Samoa Bureau of Statistics, 2018). This matter is a concern for the University as this age group (18-49) is the admission age-group into NUS.

Table 3: Population aged 5 years and above by functional domain, degree of difficulty and by Gender & Age

Functioning domains	Sex			Age group			Region			
	Total	Male	Female	5-17	18-49	50+	AUA	NWU	RoU	Savaii
Seeing										
Total	7,151	47.8	52.2	6.9	15.5	77.5	20.5	30.5	22.0	27.0
Some difficulty	6,026	47.8	52.2	6.1	15.3	78.5	21.3	30.6	21.9	26.2
A lot of difficulty	843	47.1	52.9	9.4	14.6	76.0	17.1	29.9	20.9	32.2
Cannot do at all	282	49.7	50.4	16.7	23.1	60.3	14.9	30.1	26.2	28.7
Hearing										
Total	4,252	50.0	50.1	11.6	13.6	74.8	16.2	28.4	24.3	31.2
Some difficulty	3,303	49.3	50.7	10.9	13.1	76.0	17.0	28.5	24.0	30.5
A lot of difficulty	680	51.3	48.7	11.3	11.8	76.9	13.5	29.0	24.3	33.2
Cannot do at all	269	54.3	45.7	21.2	24.2	54.7	12.6	25.3	27.5	34.6
Mobility										
Total	5,060	44.6	55.4	7.7	11.3	81.0	16.8	28.2	24.2	30.8
Some difficulty	3,334	44.8	55.2	7.5	10.5	82.0	18.1	27.7	24.3	29.9
A lot of difficulty	1,023	44.0	56.0	6.7	10.4	82.9	14.8	26.7	23.4	35.2
Cannot do at all	703	44.2	55.8	10.2	16.2	73.5	13.8	32.6	25.2	28.5
Memory										
Total	4,361	47.6	52.4	19.1	14.3	66.6	14.0	27.0	25.2	33.9
Some difficulty	3349	47.8	52.2	18.6	12.3	69.1	13.9	27.3	25.3	33.5
A lot of difficulty	668	47.5	52.5	17.8	18.0	64.2	16.0	24.9	24.3	34.9
Cannot do at all	344	46.2	53.8	26.2	27.0	46.8	10.5	28.5	25.6	35.5
Self-care										
Total	3,800	46.4	53.6	25.1	11.9	63.0	15.6	26.1	25.7	32.7
Some difficulty	2,420	47.9	52.1	28.8	9.9	61.3	16.3	24.4	25.6	33.7
A lot of difficulty	780	44.5	55.5	19.6	12.6	67.8	15.1	27.8	25.8	31.3
Cannot do at all	600	43.0	57.0	17.5	19.0	63.5	13.3	30.7	25.8	30.2
Communication										
Total	3,181	49.3	50.7	30.6	18.7	50.7	14.5	25.1	25.3	35.1
Some difficulty	2238	49.0	51.0	29.9	16.4	53.7	14.6	24.7	25.7	34.9
A lot of difficulty	605	50.1	49.9	31.4	20.8	47.8	15.5	25.6	23.1	35.7
Cannot do at all	338	50.3	49.7	33.4	30.2	36.4	12.1	26.6	26.0	35.2

In Table 4 (below), the survey 2018 shows that the number of PWD in higher education is nearly 250 people from the population of disabilities of 3,370. Secondary schools have a high number of 1,236 students with disability (5% of their population) (SBS, 2018). From the statistics it is predicted that PWD enrollment into the University will in fact rise due to the increase of PWD in secondary schools.

Table 4: Population aged 5 years and above with disability by educational attainment, 2018

Background characteristics	Total population on (5+)	Never been to school	Preschool	Primary School	Secondary School	Higher education	Special needs education	Missionaries	Missing
Total									
Total	167,633	1.8	1.1	31.5	51.2	14.1	0.1	0.1	0.2
With disabilities									
Total	3,370	9.6	1.6	41.5	36.7	7.2	1.6	1.0	0.6

NUS Infrastructure Design

When the NUS was established at the Malifa Campus, the buildings used were existing infrastructures that underwent renovation and changed purpose from being office and storage facilities to tertiary-level teaching classrooms. The donor restrictions to fund only the University of the South Pacific and the tight budget of the University during its Malifa tenure (Groves, 2019 p. 26-29) meant that even if the idea was thought of, the University would not be able design and develops any major infrastructures to cater to PWD. The design of the Le Papaigalagala Campus mountain side, which was completed in 1997, was done in close collaboration with the Government of Samoa. The WSTC was also consulted in the construction of the design in preparation for the merger. The NUS staff and governing body itself was not consulted. However, it is unclear if the consultation of the University during the design process would have made an impact to the structures being more disability friendly. The Le Papaigalagala Campus mountain side is a linked set of two-storey facilities constructed on a slope. With no disability access infrastructure built, this means that all the top floors are inaccessible to PWD. Parts of the facilities being built on a slope also creates further complication for designing to cater for disability access. The completion of the campus extension in 2006 – also referred to as the Le Papaigalagala ocean side – was the first move of NUS facilities being inclusive to PWD. Its design catering to PWD was not just new to the NUS but also to the whole country as the majority of existing infrastructure at the time did not cater to PWD. The trend of disability access suggestively should have been incorporated to all the NUS plans for new facilities from 2006 onwards. Unfortunately, with the lack of legislations and awareness, this was not to be.

Figure 2: NUS Malifa Campus



Image(s): NUS, 2004

By 2007, the NUS submitted an application for the funding and construction of a Campus at Mulinu'u to house the School of Maritime Training and the Faculty of Science Marine Research facility. The three-storey campus was funded and constructed by the People's Republic of China. The design of the Mulinu'u Campus did not take into consideration, access for PWD with no provision of ramps or an elevator. The construction of the large NUS Fale Samoa also presented the same concern. Although the Fale Samoa is arguably still accessible to PWD, it is not accessible by design with no provision for ramps. The construction of the two storeys Ancillary Building in 2014 on the Le Papaigalagala Campus housing the Financial Services and the Academic Quality Unit also failed in design to address disability access. The only other building project to have taken disability access into its design is the Culture Centre, which houses the Centre for Samoan Studies. The Culture Centre is a set of three buildings complimented by three smaller fale o'o (traditional Samoan housing) leading up to the main NUS Fale Samoa. Although the Culture Centre was designed to accommodate disability access, its poor and incomplete construction has prohibited the buildings to fully accommodate to PWD as indicated in its design. In 2015, the NUS received directives from the Government of Samoa to take on the School of Medicine. With this the NUS inherited the Moto'otua Campus which is an old single floor building facility. The buildings low foundation and past incorporations of minor ramps and concrete paths to the entrance of the building has made the Moto'otua Campus accessible for PWD although it is likely that it was not by design.

Figure 3: Le Papaigalagala Campus Map



Conclusion: The Plan and Lessons Learnt

In the Samoa National Policy on Disability 2011-2016 Bulletin, the Core Outcome areas as listed under its mission are:

1. Advocacy and awareness;
2. Early detection and intervention;
3. Independent living and economic development;
4. Provision of support, health services and assistive devices;
5. Education (training/sports/recreation);
6. Access (information/transport/built environment);
7. Women with disabilities.

Figure 4: Phase one – Le Papaigalagala Mountain Side



The core values designates the University's role and aim to build the facilities suitable not only for non-disabled students but also to establish the objective number six (6) 'Access (information/transport/built environment) – (a) Ensure national construction standards providing access for people with disabilities are fully implemented'. By integrating this into NUS buildings, it will also achieve the first objective of 'Advocacy and awareness; as to empower people with disabilities to promote and advocate for their human rights' (MWCSO, 2009). This project will market the facilities available to PWD to ensure that they have full access to all facilities and that they are safe and secure around all areas within the NUS campuses. This strategy ensures that all PWD have the right to have equal opportunities with the education and resources provided for them for further education. To address disability access at NUS a realistic and sustainable approach must be taken. The realities and funding constraints clearly indicate

that it is unlikely that the NUS will be able to resolve disability access in all the facilities and campuses simultaneously. It is therefore more feasible for the University to address disability access in phases. This approach allows the University to proceed with projects using its own budget. It also increases attainment rates to small grants such as the Education Sector Funding Scheme. This approach was a notable success with the successful procurement of a small grant from the Education Sector Funding Scheme to implement the first phase at addressing disability access.

Phase one of addressing disability access focused on the Mountain side of the Le Papaigalagala Campus. This construction included the officialising disability parking spaces, construction of large and small ramps (refer to Figure 4). The next phases will eventually cover the rest of the Le Papaigalagala Campus before eventually moving to the Mulinu'u and Moto'otua campuses. In order for the NUS to successfully address disability access on its campuses, it is important to identify and acknowledge the constraints. From the implementation of phase one, three constraints were identified: (1) enforcement of parking spaces, (2) specialisation limitation and (3) other lessons learnt pertaining internal processes.

Enforcement of Parking Spaces

The enforcement of parking spaces pertaining to disability parking is a systematic issue that needs to be addressed on a national level. 'Disability Parking' or giving priority to those affected by a disability is a newly introduced concept that some may even refer to as a 'European idea' and thus is not strictly adhered to. Until such time that the general population respects the need for accessibility of disabled people, violation penalties may need to be developed and implemented/enforced both within the University and nationally.

Specialisation Limitations

Building ramps at particular locations on campus has proven difficult in some respect. The mountainous landscape the University is situated on makes it problematic to meet certain wheelchair specification requirements. In saying this, the limited operational budget available for minor infrastructure projects does not allow for specialist designs and therefore not all ramps constructed on campus are consistent with precise and standard wheelchair specifications (i.e. some ramps require wheelchair users to be assisted.)

Lessons Learnt

University projects are undertaken through a strenuous process involving multiple divisions within the University. The current process dictates for infrastructure that the planning unit carries out initial development of relevant MOUs, contracts and arrangements with relevant suppliers and contractors. Once funding is secured, Property Maintenance (PM) is responsible for ensuring the contractors meet the requirements of the written agreement. Furthermore, Occupational Health and Safety office must conduct a health and safety audit to ensure it is suitable for the workplace and student environment. Once completed, depending on who the project manager is, a closure report must be written and attached to the Purchase Order (tender bid) and submitted to Financial Services for release of payment. There is no guideline in place to address proper and consistent processes for new infrastructure

projects. Implementing projects on a case by case basis may lead to confusion, breakdown in communication, and a slower response rate to addressing the infrastructure needs of staff and students.

Moving forward, there is a clear indication that the University, on a micro level, is not doing enough to address the national goals regarding disability; whether it is disability access to facilities, or learning with a disability - as a University, both should be considered. This strategy includes better aligning of the Corporate and Strategic Plans to the ESP and Samoa Development Strategy. A lack of funding will always be a persistent issue. The University through its planning unit must discover alternative means of funding infrastructure projects that do not necessarily fall under the strategic priority areas of NUS. Another issue that needs to be addressed is the current mind-set of the community; to be accepting of PWD and understanding that there are certain privileges that they are entitled to, such as but not limited to: priority parking, front row seating, accessibility to facilities etc. With the enrolment numbers of PWD set to increase, it is inevitable that the University must prepare its facilities to cater to the intake, and also meet national and sector priorities. **Acknowledgement**

We wish to acknowledge the efforts and contributions of Martin Carey, Fagalilo Mandria Sua, Tuileva Tuileva, Tuala Amerika Siale, Noelani Manoa and Tupai Ierome Fune whom all have played an instrumental role in the development and implementation of the Disability Access Project, which has inspired this paper. We would also like to thank Dr. Ian Weber for his editorial assistance and guidance.

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The Future of Women's Leadership in Samoa

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Abstract

Samoa legends and myths documented that matriarchal leadership existed prior to colonization and Christianity. Queen Salamasina, a woman was the first official tafa'ifā (holder of four paramount chiefly titles) in the history of the country. With the advent of the missionaries matriarchal leadership was gradually superseded by male leadership, firstly by Christian missionaries in 1830, and later by colonial powers after World War 2. Even after Samoa became independent in 1962 leadership positions in families, churches, government, and organizations and culturally have predominantly been males. Aspiring women to leadership positions have met with many obstacles. As such the need for gender equality in participation and representation in traditional village judiciaries (local government) is the focus of this article. The many challenges that impede Samoan women entering leadership positions in local government are influenced by cultural values, religious beliefs, and social assumptions. Cultural values are considered significant as people's perception of a leader is equated to male leadership embedded in a village's cultural norm. Religious beliefs also emphasized the role of the father as the head of the family to further reinforce cultural restrictions on women access to leadership positions. Social assumptions that associate women's work with household tasks contributed to this belief. Consequently, women participation is on the periphery evident in women's committees but full participation in village councils (fono a le nu'u) are barred.

Keywords: matriarchal, leadership, challenges, participation

Samoa Leadership Issues

As the world entered into the 21st century women empowerment was gradually being recognized globally and also in small islands states like Samoa. Though the challenges were many and there continued to be hurdles to overcome, this only proved the Samoa axiom "*e au le inailau a tamaita'i*."

Cross-examining the extent which limited women's opportunities for authority and power in Samoa could bring to light obstacles that would ease the access of women in traditional village communities. Women encountered inequity in striving for leadership positions that are firmly entrenched and rooted in family leaders' (matai) predominant preference for males. Significantly, local governments endorsed male appointments through the establishment of cultural structures and social systems to curb potential women leaders. Religious beliefs that emphasized the position of the father as leader of the family sanctioned deep seated mentality of honoring males. Consequently, women are being forced to become peaceful activist in their desire to ensure their struggle is the struggle for all prospective women leaders'.

The significance of the Samoan leader's role is fundamental in the administration, implementation, and monitoring of village affairs (Iati 2000). Matai held the highest portfolio and took control of the judiciary in traditional village societies, a legal forum as practiced in the nineteenth century when chiefs were responsible for keeping order without an official central government (Davidson 1970).

The local government as it was known consisted of chiefly and oratory matai depending on the status of the title bestowed by respective extended families (Keesing & Keesing 1956). This decision-making forum was dominated by males due to women debarment from holding matai titles, and their refusal to

allow women's participation in local government meetings (Centre for Samoan Studies 2015). These so called erected barriers were attributed to cultural, religious, and social conventions.

Out of 240 traditional villages 41 do not confer matai titles to women. In addition, 34 villages do not allow resident female matai to participate in village council meetings or *fono* (Centre for Samoan Studies 2015). The Village Fono Act 1990 was legislated to give state recognition the importance of the village fono to local governance. Overall, less than 10% of the matai population in Samoa were women in 2011 (Sāmoa Bureau of Statistics 2015). These figures revealed the essence of two major impediments. Firstly, the authority of local government curtailed extended families from selecting women leaders and furthermore confined women heirs' access to family titles they belong to. Secondly, this discrimination hinders opportunities for women matai to become national leaders. In the general election of 2016 only five of the 49 parliamentary seats were occupied by women. Four were respective winners of their constituencies in the general election, and one was appointed as a result of the 10% allocation for women representatives, in response to Goal 3 of the Millenium Development Goals and Beyond 2015 (United Nations @ UNDP 2005). The figure, 10% is alarmingly low, considering the fact that women make up 48% of the country's total population (Sāmoa Bureau of Statistics 2015).

Historically, Samoan people have had a tradition of female chiefs as traditional leaders (Gunson 1987). The war goddess and female warrior Nāfanua, ruled some constituencies of the country, and Queen Salamasina, the original holder of the four paramount chiefly titles (*tafa'ifā*) gained sovereign control of the nation for more than 40 years (Meleisea 1987). Women supported their male kin during the colonial period to demonstrate unity that Samoa would one day be ruled by Samoans. They established their own Mau movement in 1930 against the New Zealand administration, irrespective of the harsh circumstances (MacQuoid 1995). The Women's Mau Movement appealed to the United Nations Organisations to grant independence for Samoa in support of the national petition filed by chiefs and orators. The success of the petition was evident when Samoa gained independence on January 1st 1962.

Women gained their strength from the ultimate Samoan philosophy, *feagaiga*, the covenant between sisters and brothers (MacQuoid 1995). Under the *feagaiga* relationship, brothers were obligated to serve and protect their sisters as well as any of their offsprings for life (Holme & Holme 1992). Women defendec their traditional *feagaiga* relationship to ensure family harmony and peace was maintained. With the arrival of the missionaries and colonial powers the traditional system was gradually eroded (Schoeffel 1979). The missionary and colonial eras saw changes in the social systems, and many of diminished the status of Samoan women. The leadership authority that had been equivalent to the chiefs and orators dissolved as a result of women's lesser rank. Alterations of some characteristics of the traditional Samoan culture were made when Christianity replaced the Samoan indigenous religion (Kamu 1996).

Women's leadership in Samoan village communities is neither recognized nor acknowledged due to cultural restrictions, religious beliefs, social assumptions, and the patriarchal nature of the administration of local government. Women leaders in women's committees are not usually consulted in the decision-making of village councils (Quay 2006). Therefore, the Samoan cultural system failed to acknowledge the existence of women leaders, since the expectation was that the village council was an all-male operation (Schoeffel 2015). However, in spite of the male-dominated leadership traditions,

women spearheaded avenues to strengthen leadership empowerment (Samoa Women Empowerment Project Report 2015). Women had training on basic sewing, tailoring, weaving, cooking, stencil design, fabric printing, floristry, maintaining cleanliness and hygiene, financial literacy, and child protection (Ministry of Women, Community & Social Development 2013-2014). Income-generating activities utilized the skills obtained to improve the financial status of families and people's living standards. Furthermore, women took the lead in safety precautions regarding their children and family members. Their success was proof of their increased understanding of community issues and applicability to life essential requirements in leaders to serve society. Nevertheless, their dedication to the advancement of communities did not provide eligibility to participate in the village *fono* or government and were confined to women's committees.

Women believed they have the right to shared leadership in their own right as part of their traditional birthright (Gilson 1970). According to Gilson the traditional activities which recognised the importance of Samoan women were undermined by the missionaries in the 19th century. Since then, the high ranking power of females gradually diminished until the traditional administration of village communities came to be dominated by males (Silipa 2008). Women categorised themselves as servant leaders by practising the qualities underlined in the servant leadership model (Prichard 2013) which included, valuing diverse opinions, duplicating and repeating effective tasks, cultivating a culture of trust, developing other leaders, planning long term goals, selling and not telling the goals of the organisation, encouraging partnership, and acting with humility. Women do not pay much attention to being labelled as second ranking leaders (*pule na lua*) in the hierarchal structure of traditional village communities, but prioritised other people's needs first. They believed that enabling the full potential of others allowed the leader to make the most out of every situation (Chemers 1997).

In positioning myself as a Samoan female leader, I gauged that ambitious women leaders are under many constraints established and enforced by local governments. The influence of local government in the selection of family leaders compromised the integrity of the selection process, threatening and prejudicing the participation of women matai in village council meetings. Furthermore, not providing women with equal opportunities to access matai titles like men eliminated the traditional form of leadership (Meleisea 1987) prior to the advent of the colonial powers and Christianity. Meleisea's documentation of the Samoan history of leadership illustrated Samoa had a ruling queen of more than 40 years, demonstrating the matriarchal leadership nature of the Samoan society before contact with foreigners. Therefore, exploring the barriers that stop women from accessing authority and power in local government is one the fundamental issues warranting further discussions on general gender inequalities in Samoa.

The Legendary Samoan Woman

Samoa people have respect for the status of women in the hierarchical structure of traditional families and village communities. The dignitary connotations or *fa'alupega* denoting the prestigious standing of the Samoan woman or *tama'ita'i* Samoa is highly honoured, stable, and respected. This inference implies the sacredness of the female who holds a ceremonial clergy-like position or *ositaulaga*. Sacredness was noted by Burrows (1939) as the most important aspect of leadership. In fulfilling this

role, the *tama'ita'i* conducts a morning-prayer utilising the light from a coconut lamp or *molipopo* that complements embers or *aloiafi* from a 24 hour fire burnt in the middle of the house *magalafu* for the old people's Samoan tobacco. The prayer calls for the spirits of the ancestors to protect family members from enemies and accidents. If the family is preparing for a domestic battle or the village planning a civil war, the *tamaita'i* submits requests for the blessings and guidance of the ancestral spirits. This role is done by the *tama'ita'i* in her capacity as the leader of the family. The argument made is that she is already a leader and should be involved in the decision making of local government. Unfortunately, male chiefs and orators are territorial in safeguarding village councils to protect their own interests.

Another Samoan ritual addressed the woman as the wealth-maker or *fai'oa* pertaining to weaving, crafting, and producing handicrafts. Traditionally, the standard of economy depended on the number of fine-mats, tapa and other handicrafts in the possession of families. These customary necessities were prepared for weddings, funerals, bestowment of a new matai title, opening of a new house, hosting guests, and other ceremonies. In present times, labouring for the family remains a service which should be considered in the recruitment of matai, similar to the labour of the untitled man or *taule'ale'a*. However, the service of the untitled man is regarded by many as a service, while the woman's labour is labelled a contribution. Unfortunately, these adverse influences were introduced during the colonisation and reinforced by Christianity.

A Samoan woman is known as the most sacred or *tamasa* of the siblings. The concept literally meant that no one was allowed to contravene or defy her. Likewise, it was taboo for the brothers to lay hands on her. Added to this is the notion of being the most privileged lady or *'augafa'apae*, the peace-maker or *pae ma le auli* who irons out differences and harmonizes people. The female is also the liberator or *tausala* who rescues her family from defeat in a battle. These cultural connotations denote the privileges of the Samoan woman that is observed and treasured. Nevertheless, women leaders can only lament the loss of these ceremonial addresses as they lose status and are ignored by male leaders of local government and the church. In my view, the highly-regarded status of women has been compromised and prevented them from leadership positions in families, churches, and politics. As servant leaders they provide service to village communities through a variety of skills and talents.

With reference to human rights, one of the weaknesses is how the Western concept is interpreted in other societies. It is problematic because the message conveyed could affect people's understanding of what human rights are. This may have caused local government to minimize and limit women's participation in decision making.

Perhaps males feel that giving equal opportunities to women would either threaten or weakens their power. Samoans view criticisms of the church and the matai system as incorporating the divine, the traditional, human rights or women's rights on human constructs. In this logic, the Bible and the divinity of the Bible are beneath the power of local government.

Samoa

Samoa's beginning is explained in the language of marriages, genealogy, and heritage. Samoan myths and legends articulated Tagaloaalagi as the original creator. He was the ultimate autonomy, antecedent, and premier of other gods and humans. However, archaeologists concluded after assessing the Lapita

pottery remains, that people initially settled in the Samoan group of islands at about 1500 B.C (Turner 1884).

Samoa is a set of nine volcanic islands, located in the southwest of the Pacific Ocean. The two larger islands of Upolu and Savai'i have a land area of 2,820 square kilometres and there are seven smaller islands scattered around the two relatively big islands. Apia is the capital of Samoa, and is located in the main island of Upolu. The country lies between latitudes 13 and 15 degrees, and longitudes 168 and 173 degrees west of the Tropic of Capricorn (Fox & Cumberland 1962). Samoa is renowned as the heart of Polynesian, from which familial ocean-going voyages navigated to all four directions of the Pacific Ocean (Te'o 2011). The government is a constitutional monarchy led with the Head of State appointed by Parliament on a five year term. In 2015, an amendment to the constitution ensured that the appointment of the Head of State was vested with the Cabinet. The two official languages are Samoan and English.

Background to Pacific Leadership

This explored the leadership strategies in traditional communities in the Pacific before any outside contacts. According to the literature, the traditional framing of leadership in Pacific islands is uniform in terms of maintaining the intact fundamental values and beliefs. In Tonga most communities preferred to maintain the monarchical system (Taufe'ulungaki 2009). Similarly, the Vugalei clan in Fiji believed in the notion of "i solisoli – a gift from some spiritual source, an ancestor, or some unspecified and often mystical source" (Nabobo-Baba 2009: 148). According to (Teaero 2009), all Pacific cultures have indigenous philosophies, theories, and metaphors incorporated into their leadership paradigms. These leadership paradigms are executed in ways that reflected the conservation of cultural values and beliefs. Significantly, the practicality of leadership traditions in local government in Samoa, and the interpretation of leadership traditions in debarring women leaders is questionable. It also scrutinised the traditional leadership values and beliefs of other Pacific islands to determine the boundaries that thwart women's leadership in general. Examples are drawn from two unique roles that signify the leadership prerogative of women before the introduction of the male leadership concept in the 19th century. Subsequently, the discussion featured transitional factors which led to the diminishing of women's leadership, resulting in the establishment and continuation of male leadership precedents. Links to similar scenarios are drawn from international contexts as well as Polynesian and Melanesian settings to determine the degree of suppression Pacific women experienced in their struggle for authority and power (Tamasese et al. 2005).

Samoa myths, genealogies, and traditional roles of women demonstrated the power attributed to them in the Samoan culture. Two significant core leadership roles of women were highly regarded and associated with specific responsibilities (Le Tagaloa 1996). Firstly, the female was considered the traditional priest *ositaulaga*, a role originally designated to the war goddess Nafanua (Williamson 2013). Hence, succeeding females inherit the *ositaulaga* role, personifying the spirit (mana) that guided, protected, and blessed daily activities of the family (Barclay 2005). According to Barclay Samoan females succeeded to the roles of a traditional healer or *taulāsea*, a person who leads in worship *ositaulaga*, peace maker *pae ma le 'āuli*, and health maker or *fai'oa*. These roles formed the foundation of professional nursing in Samoa (Barclay 2005: 206). Secondly, the female is esteemed as the covenant

feagaiga, the embodiment of the sacred relationship between the sister and brothers (Le Tagaloa 1996). The *feagaiga* relationship distinctly ascribed statuses and roles that are quite different, while being complementary. (Schoeffel 1979). This role assumed that the *feagaiga* finalised family decisions; rendering judgement irrespective of the circumstances. These fundamental leadership roles of Samoan females are now ceremonial (Maiava 2001), resulting in either diminished or halted the cessation of leadership privileges.

The colonial authorities destabilised women's leadership by establishing new types of leaders and power centres which contested islands' traditional systems in the 19th century (Feinberg & Watson-Gegeo 1996). These transitional structures confronted and threatened the traditional political leadership of the countries of Oceania. Furthermore, Christian missions overhauled the spiritual power that had often signified precedence in the old systems (Gustafsson 1992). These new systems did not acknowledge the Samoan myths and legends that documented the patriotic nature of women (Fairbairn-Dunlop 1996). Classic recorded examples of these included masterminding and executing civil war battles. Nafanua, the war goddess obtained four paramount chiefly titles (*pāpā*) as rewards of war victories (Isaia 1999). She contested leadership which required willpower, bravery, and perseverance. The legend, '*E au le inailau a tama'ita'i*' demonstrated the determination of women to compete and beat men in thatching and re-thatching, leaving men in embarrassment (Papali'i 2002). The myth from which the proverb, '*Ua fa'alava le Amoa*' emerged from Amoa's bravery in rescuing the people of Sa Tagaloa from Lu's mischievousness (Le Tagaloa 1996). In ancient times, Samoan females dedicated their lives to their families and the communities as evident in Amoa's determination to free her people. The holiness of the Samoan female as the *feagaiga* revealed dignity and legitimacy to the action of Amoa (Schoeffel 1995). The legacies of Nafanua and Amoa are told in Samoan myths and legends (Fairbairn-Dunlop, 1996) to remind the present and future women about the leadership styles of Samoan women in the past. The leadership behaviour of these females and many others guaranteed the success of female leaders who participated in the administration of village communities in Samoa. However, females gradually withdrew in the wake of male matai (cultural title) domination.

A noteworthy feature of the appointment of Samoan leaders or matai is that anyone who is kin qualifies, regardless of gender or age (Holmes 1980). Nevertheless, gender is the most notable criterion that diminished women's chances of becoming a matai. The social notion of associating women with household tasks has influenced the selection of matai (Saolotoga 1995). The same supposition has affected women the world over in their battle for leadership position. Currently women are not selected for the top jobs in companies in the United States because those in senior positions contended women's family commitments would take precedence over their work responsibilities (Hoobler et al. 2011). In the same vein (Simpson 1997: 122) alluded stereotyping women into "role traps which includes the mother", a typecasting barrier that isolated women from management posts. Gender biases that regarded leadership qualities to be more suitable for men have endured and are hard to overturn in some organizational cultures (Schwanke 2013). In addition to gender bias is the influence of cultural norms which have resulted in some women's refusal to take leadership obligations (Akao 2008).

From the local to the global level it was evident that cultural, religious, and social barriers threatened the participation of women in positions of authority. Almost all cultures craft social distinctions between men and women and in many cases women's identities are compromised in social hierarchical systems

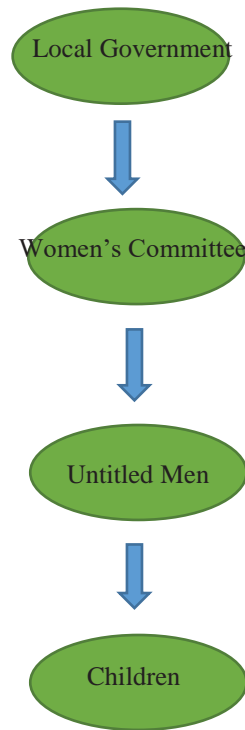
(Harris 1991). This incorporated certain matters of intimidation which labelled women as inferior and incompetent (Eagly & Mladinic 1994). Men with aggressive attitudes towards women targeted status-seeking women, and when women are in senior positions, they feel threatened in male territory. Coupled with the fact that women leaders are surrounded mostly by male colleagues, women are placed at further risk of discrimination (Broughton & Miller 2009).

Similar cases of the difficulties in accessing leadership positions also existed for women in other Pacific countries. The traditional kin-based stratification of the oldest male in the family having the final decision-making is culturally active in Tonga. Although the highest female holds a given title, she lacks any decision-making power in extended family matters (James 1995). In consequence, she cannot represent her family in the decision-making forum of her village community.

The same scenario affects women in Papua New Guinea. Here, women are confronted with culturally biased values and males' controlling power. Historically, the situation has been difficult with a strong gendered-bias against women in leadership positions throughout the country. The difficulty of challenging power and cultural barriers limit women's participation in making decisions. Consequently, women continuously experience hardship in striving for authority and power. Their voices are unheard because public spheres are traditionally-oriented and continued to be male domains (Vali, 2010). These harsh circumstances point to kinship. In most traditional Melanesian societies, these kinship systems prescribed the way people socialise and function (Sanga & Walker 2005). Leadership in these kinship systems is male-dominated. For example, in the case of extended families or *'āiga potopoto* in Samoa, the elected leaders are matai, and the majority of these matai are males. These male matai control the affairs of extended families as well as being members of the local government and the judiciary for traditional village communities. This was established by the Village Fono Act 1990 and the Internal Affairs Act 1995 (Ministry of Women, Community and Social Development, & Internal Affairs 2016). The local government is the highest authority in village communities which creates and enforces rules and sanctions for the whole community.

The Leadership Structure is illustrated in the Following Diagram.

Diagram A. The hierarchical leadership structure of village communities



Critiquing cultural paradigms permits an understanding of the history of leadership in Samoa to inform understanding of the modern construct. The Samoan context of leadership signifies carrying the spirits of ancestors and representing the mauli of your family members in leadership posts (Sanga & Chu 2009). The mauli upholds the spirit (mana), equipping leaders of families ('āiga) and village communities (nu'u) with the wisdom to impartially execute leadership roles (Le Tagaloa 1996).

Cultural Context and Social Philosophy

The social philosophy of this research is exploring the validity of the leadership assumptions in Samoa that associates with being male, and the sincerity of the respect accorded to them in cultural, social, and religious activities. According to the foSamoa Millennium Development Goals Progress Report 2010, Samoan women have limited access to customary land and are largely excluded from dealings in customary land, such as customary leases. Although they have equal rights over freehold land, women do not charge well in practice, as they do not often avail themselves of the right to be included on the title as a registered owner. This particular report explains land ownership as another hindrance to Samoan women's leadership due to restricted access and their exclusion from land dealings. There is a huge gender gap with leadership roles in the villages (Schoeffel 2015). For that reason, this study is intending to change people's mind-set about the male leadership preference by suggesting that women have equal rights to become leaders of their families by holding matai titles as mandated in the constitution of the independent state of Samoa.

Leadership Definition and Styles

Leadership definitions vary in the research and literature. However, I am drawn to a leadership definition by Burns (1978) who refers to leadership as a process and a property, and it is this framing that helps position this study. According to Burns, the leadership process entails how an individual or a group influences others towards a particular goal or objective, and leadership is about developments that occur across one's life span. This process is "where an individual inspires a group of individuals to achieve a common goal" (Northouse 2007: 3). Burns (1978) also notes that leadership is a property of an organizational structure, mandated to align with the expectations and norms of the organization. In addition to Burns, (Gardner 1990) sees the components of process and property in leadership as a subset of the broader concept of communal purpose. Further, (Sanga 2005) denotes the village community as a setting for communal purposes. In Samoa, village communities and women's committees come together to do communal activities either as a collective body, or in separate organizations. Furthermore, the study explores the leadership styles and whether autocratic, democratic, and laissez-faire styles (Lewin et al. 1939) are apparent in women leaders' practice of communal activities in women's committees and village communities.

My Standpoint

When I was a young woman in the village, I used to listen to narratives of great leaders, and I developed this philosophy of trying to be one of those great leaders. Now, I have finally realised that leadership is not about replicating someone's behaviour, or trying to be someone else. I have learnt that leadership is not about having power over other people, but it is about stepping up to lead. My upbringing in a village community revolves around cultural and religious principles. Hence, my leadership journey was guided by the moral values of respect (fa'aaloalo), love (alofa), and humbleness (loto maualalo). These principles were complimented with a comprehensive knowledge of the essence of Samoan and Christian ethics, learnt within the vicinity of the family, and taught by my paternal grandparents who additionally groomed me to be a leader at a very young age.

Fundamentally, my excursion into the leadership world began with learning basic survival skills by observing and assisting my grandfather in farming, carving, and fishing. Although I did not pay much attention to my grandmother's talents of traditional healing (taulāsea) and midwifery (fa'atōsaga), I credit her expertise in serving the village community. In addition to learning survival skills, I also learnt to be self-sufficient, relying on what I was able to afford. These trainings initially nurtured my leadership knowledge and experience. I commend my grandparents for envisaging my leadership potentials and I am forever grateful to them for making me the leader I am today. I am passionate about leadership in village communities because the environment is integral to upholding true Samoan values as well as keeping the culture alive. Through experience, I am of the opinion that these gender disparities need to be addressed in order to acknowledge women's statutory right to leadership. According to (Haider 2009), participation in decision-making must be inclusive, and should incorporate groups that are marginalized such as women. This argument is supported by (Freire 1983: 76) who states "Participation

in decision-making processes is the right of all people to individually and collectively speak their word". As leadership is not the privilege of some, it is my intention for local government to implement an innovative culture where people's ideas are expressed, recognized, and valued by involving them in decision-making. For example, community leaders must believe that implementing appropriate changes allows growth, reflecting maturity, and stability in leadership. As (Chambers 1983) suggests that participation can potentially develop into empowerment, it is my goal to see that many women are empowered to partake in local government. Though faced with a lot of challenges, my journey through the leadership sphere has enabled me to experience theoretical perspectives and practical approaches pertaining to female leadership. This leadership excursion has also familiarized me with the practicalities of leadership characteristics particular to female leaders in comparison to their male counterparts. I am inspired to explore the original status of the cultural context of the Samoan female as the feagaiga (covenant), adviser, and decision-maker. The literature documents the elite status of the Tama'ita'i Samoa (Samoan female), her unique responsibilities, and her decision-making power as evident in (Fairbairn-Dunlop 1996; Le Tagaloa 1996; Meleisea 1987; Schoeffel 1979). These literature carefully remind me, a Tama'ita'i Samoa about women's position in society, and motivate me to explore, identify, and address the hurdles that restrict women from leadership positions. Holding leadership posts such as a matai of the extended family, a deacon of the Congregational Christian Church, leader of the Aualuma (association of daughters of the village), and Dean of the Faculty of Education speak volume of my leadership achievements.

The Samoan Pathway to Leadership

"O le ala i le pule o le tautua" is translated as: *the way to authority and power is through service*. The Samoan proverb grounds the foundation of gaining leadership in Samoa. Some scholars refer to leadership as providing service. "Leadership is tautua [service]" (Rimoni 2009: 51) and "genuine leadership is true service" (Samala 2009: 63). The selection of matai to lead extended families is based on the quality of service rendered. Family decision-makers deliberate on the type of services and the standard of performance. In most cases, the final candidate is the one who provides the family with outstanding services - for example, serving the family with dignity and honesty in his position as an untitled man (taule'ale'a).

This includes preparing and presenting food to the matai, rendering all expected services, doing as instructed, and protecting the matai and his family from enemies (Macpherson 1997). There are other factors such as seniority, having cultural knowledge, and being wealthy. In whatever manner, service is the most considered aspect in the selection process. Males have advantages because of the apparent nature of their services while the female's contribution is less visible. Contributions from females are neither announced nor revealed. Consequently, the preference for matai is males, and females are seldom selected after serious consideration. Hence, the patriarchal nature of the Samoan society continues to thrive.

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A Peg in the Ground – The Health and Physical Education Curriculum in Secondary Schools

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Physical Education should excite students, engage them enthusiastically in activities they find meaningful, and eventually help them develop lifelong commitments to physically active lifestyles.

(Siedentop & Tannehill 2000: 130 cited in Penny n.d.)

Since its inception in 1967, physical education in Samoan schools remained unrecognized although structural changes were made to include a health component. In 2004, the Curriculum Statement for Samoa Secondary Schools: Health and Physical Education Years 9 – 13 (Ministry of Education, Sports & Culture 2004) was officially completed. The writing of teacher's guides for years 9 and 10 (Rasmussen & Sio 2004a) and, years 11 and 12 followed (Rasmussen & Sio 2004b). In 2005, the official implementation of the curriculum began with 2008 being its inauguration as an examinable subject for the Year 12 School Certificate and 2010 for Year 13 Pacific Senior School Certificate (PSSC). The implementation of the Samoa Secondary Schools Health and Physical Education Curriculum is "A peg in the ground" (Stoohart 2000: 5) as this marks the long awaited curriculum for Physical Education, and as a subject that has been marginalized for a long time. The Samoan expression alluding to the Biblical verse "*O le ma'a tulimanu sa lafoai'ina e tufuga*", the stone that was rejected by the carpenters, has now become the cornerstone (Mark 12:10) seems particularly apt at this time to describe the current developments in this field. Over the years Physical Education had taken second place to the more traditional subjects taught in schools, however, the launch and implementation of Health and Physical Education (HPE) curriculum accelerated the incorporation of HPE into mainstream teaching.

Issue with Implementing the Secondary PE Curriculum

Samoa has continued to face problems implementing the Samoa Secondary Schools Health and Physical Education Curriculum (which I will also refer to as Physical Education) as well as what teachers encounter in the implementation of the curriculum. This also includes the barriers that may have contributed to the delay and acceptance of Health and Physical Education as an academic subject. The primary focus is to address issues relating to Physical Education including health.

Furthermore, teaching Physical Education had taken a long time in gaining recognition as a school subject due to teachers and the Ministry of Education, Sports and Culture's perceptions. In support of this, there is also an attempt to discover whether there had been any changes to attitudes and perceptions of teachers towards Physical Education. The article will help to gain a better understanding of the problem regarding the acceptance and teaching of Physical Education in the schools as well as helping to improve the training of teachers.

The Samoan Social Structure

The Samoan social structure is made up of the village (*nu'u*) and the family (*aiga*). The family, which includes the extended family has a chief (*matai*) who is the head or leader of the family and is accorded

great status and power and is entrusted with the management of family land and property (Meleisea 1992; Petana-loka 1995). This social system ensures the village welfare and well-being of the family and individual (Fairbairn-Dunlop 1991; Meleisea 1987 cited in Faoagali 2004). The council of *matai* (chiefly title holder) makes up the *fono*, the village forum that governs matters such as health, education and developmental programmes (Petana-loka 1995; Meleisea 1992; Faoagali 2004). In many villages, the *fono* are predominately male who exert power and a strong control over their communities as well as influence on school leadership (Fa'aulufalega 2008; Pereira 2006) and what goes on in the schools.

Samoa Education System

Systems of education are on the whole conservative (Beeby 1966). According to Curle 1964 (cited in Beeby 1966: 29) "in most societies, for most of recorded time, education has been a reactionary force rather than a progressive one. Education that is often closely associated with religion has tended to hallow antiquity than to promote innovation". As such, education in Samoa seemed a replica of religion in following tradition rather than moving with the changing times. Undoubtedly, HPE in the late late sixties heralded a new era which continues to now. However, changing attitudes and perceptions remain a challenge.

Education systems are political organizations in which power is an organizing feature (Sarason cited in Johns 2002; Beeby 1966), to change societal habits and values. Consequently, the powers at play in the establishment of HPE have yet to influence and change society's views on HPE. Although Samoa is a sporting nation this was not translated into classroom practice because it was not an examinable subject. Educational policies and practices have evolved historically from colonial heritage (Salter 2000) to ex-colonial countries like Samoa. Subsequently, policies and practices have accepted the kind of academic schooling handed down to them by their European rulers, as a system that offered hope and freedom for their children from "poverty and tedium of the life on the land" (Beeby 1966: 30). This attitude is still in existence today in Samoa. Researches by (Tavana 1994) and (Fuatai 1993) found that education was valued as a means of escaping rural life and finding white collar and well paid employment (Pereira 2006).

The education system in Samoa began with the advent of the London Missionary Society (LMS) missionaries in the 1830s. It was a combination of influences of Samoan culture, Christian missionary work, colonialism under New Zealand, and the beliefs of the Samoan leaders who have directed schooling since political independence in 1962 (Department of Education Western Samoa 1986). Formal secondary education began in the early 1960's following the establishment of Samoa College in 1953. Under the New Zealand administration (1914-1962), Samoan schools followed the New Zealand curricula and syllabi. This was particularly so at secondary level, where New Zealand external examinations such as the New Zealand School Certificate and University Entrance examinations became dominant. Secondary education was influenced and controlled by New Zealand expatriate teachers. Schooling in Samoa mirrored schooling in New Zealand. The New Zealand system of education (Petana-loka 1995) continued in Western Samoa even after independence. Gradually in 1989 the school curriculum was localized and the national examination, the Western Samoa School Certificate and a

regional examination, the Pacific Senior Secondary Certificate at senior secondary level (Petana-Ioka 1995, Ministry of Education, Sports & Culture (2008) *Samoa school certificate examination: Health and physical education 2008 exam report*. Ministry of Education, Sports & Culture.) were established.

For about thirty years, the Samoan educational system was largely influenced and replicated New Zealand educational views, philosophies and practices. This was reflected in the subjects selected (Schuster, 2019) taught at secondary schools namely, English, Geography, Mathematics, Science and Book-Keeping. Physical Education was conducted in the form of a sports activity usually timetabled in the last period on Friday.

The influences of the New Zealand Physical Education syllabus in the 1940's and 1950's (Stothart 2000) were eminent in the introduction of the "rompers" for girls during sports period and the type of sporting activities that were practiced. These practices were particular to Samoa College, a prestigious secondary school that was funded by the New Zealand Government. The majority of the teachers came from New Zealand. The particular focus at Samoa College was to prepare Samoans for leadership in the Independent State of Samoa. The New Zealand 'influence' on education was pointed out as early as 1920s, by the then Administrator to Western Samoa, General Richardson, who stated that "the Samoan Educational System was controlled by New Zealand experts who were keen, enthusiastic and able but who were liable to view the education of Samoans 'through New Zealand spectacles'" (Department of Education Western Samoa 1965: 2).

The emphasis on an examination system, prevented teachers from being creative and innovative and from teaching subjects that were more practical in nature. Dalton 1988 (cited in Petana-Ioka 1995) discussed Piaget's statement in the following way, "the school examination becomes an end in itself because it dominates the teacher's concerns, instead of fostering his natural role as one who stimulates consciences and minds and he directs all the work of the students toward the artificial result which is success on final tests, instead of calling attention to the student's real activities and personality" (p. 69). As a consequence of this practice, practical subjects such as physical education, music, and visual arts became irrelevant. Because they were not examinable, they were regarded as unimportant, a "filler in" to keep students occupied while the teacher attended to other matters. Perhaps, it is because these subjects were not examinable, that they held no status in the Samoan education system.

By the mid-1960s, after Samoa became independent, the Samoan education system became "Samoanised". Expatriate education officers and teachers, were gradually replaced by qualified overseas and locally trained Samoan teachers (Department of Education Western Samoa 1965).

Introduction of Physical Education

In 1967, the Education Department saw the need to train teachers in physical education and the subject was then introduced at the Teachers' Training College (TTC) for primary trained school teachers. Later it became the Primary Teachers' College (PTC) until it merged with the Secondary Teacher's College (STC) in 1991 to become the Western Samoa Teachers' College. The course of study included Physical Education as one of the majors that students could choose from. Moreover, the one day a week sports

period in the secondary schools was replaced by Physical Education. Physical Education was viewed as 'sports' and translated into Samoan as *ta'alogā*. The ambiguity related to this Samoan term, also meant it was games, or play, as well as sports which proved to be ambivalent in the way the subject was viewed by parents, students and particularly teachers. This uncertainty may also be due to the nature of some of the Physical Education lessons where physical activities were related to games and sports skills. As a result, Physical Education was not seen as an important part of holistic growth which involved the well-being of an individual in all areas of their physical, mental, emotional and social life (Rasmussen & Sio 2004a), but a subject that was 'easy going' with exercise not necessary or important (Kim & Taggart 2004).

For many years, and more important in relation to this study which was conducted in 2009, teachers were trained in Physical Education despite the fact that there was no curriculum. Moreover, it was not until thirty-eight years later, in 2003, that a curriculum statement for the Samoa secondary schools was written. The curriculum for the primary schools had recently been written under the Education Sector Project II, which focused on improvement of both primary and secondary education and capacity building within the MESC (Ministry of Education Sports & Culture, Final Inception Report 2006; Ministry of Education, Sports & Culture (2008) *Samoa school certificate examination: Health and physical education 2008 exam report*). However, a sports programme called *Fiafia Sports* which was fashioned out of the Aussie and Kiwis sports programme is the only physical activity programme that was activated in selected primary schools in Samoa since 1990.

Implementation of the Samoa Secondary School Health and Physical Education Curriculum

In 2004, the Curriculum Statement for Samoa Secondary Schools Health and Physical Education (Ministry of Education, Sports & Culture 2004) Years 9-13 was completed (Ministry of Education, Sports & Culture, 2004) and ready for implementation. The implementation of the Health and Physical Education Curriculum was our first peg in the ground. In preparation for implementing the curriculum, a one week's workshop was organized to train teachers who were going to teach the Health and Physical Education Curriculum. This workshop was planned for the first week in March 2005. Trainers for this workshop were Ms Brenda Sio and the author who were involved in the development of the Health and Physical Education Curriculum statement and writers of the Teacher Guides. Ms Sio was responsible for the teaching of Health and the author, for the Sports and Physical Education section.

In preparing for this workshop the constructivist theories of learning were taken into consideration; where learners generate understanding or knowledge through interaction of what they already know and believe and the ideas, events and activities which they have learnt through contact or communication (Cannella & Reiff 1994). Knowledge is learned through involvement with content rather than through imitation or replication (Kroll & LaBoskey 1996). Learning activities using a constructivist approach include active involvement, inquiry, problem solving and cooperation with others. The teacher is a guide, facilitator and co-explorer, who encourages learners to question, challenge and form his or her own ideas, opinions and conclusions, rather than being just a dispenser of knowledge (Ismat 1998). As a trainer or facilitator, it was important that adequate preparation was undertaken for the workshop that

would include a lot of practical and group activities related to the curriculum and Teachers Guide, so that teachers would be able to interpret and develop their own pedagogical styles.

Forty-four (44) teachers from eighteen government and mission schools were invited to attend the weeklong workshop. However, only fourteen (14) teachers (about 31 percent of invitees) attended the workshop. The non-attendance of teachers, demonstrated attitudes that existed amongst principals and teachers of practical and vocational subjects that was undervalued or perceived as important. As one teacher commented when asked about the absence of the other invited teachers; “our principal told us whoever wanted to attend could do so”. This exemplifies the casual and dismissive attitude that is held by many individuals in the Education Sector, including those in influential positions such as principals, towards vocational subjects. The workshop procedure guided the teachers through the Curriculum Statement booklet. The Teacher’s Guide provided guidelines on how to plan and implement the curriculum in their schools.

Key Principles that Underpin Samoan Education

In the last five years much discussion and thought has gone into developing and strengthening Samoan education. Four overarching principles have been outlined in curriculum documents which underpin all aspects of Samoan education including the development of the curriculum.

These are Equity, Quality, Relevance and Efficiency.

Equity has been defined as that element that requires that “the system will treat all individuals fairly and justly in provision of educational opportunity” (Ministry of Education, Sports & Culture 2006: 3). Additionally policies and practices which advantage some social groups and disadvantage others are to be avoided whilst those which address existing inequalities in access, treatment and outcomes are to be promoted. The second principle of quality is defined as being exemplified by “high standards of academic achievement, cultural understanding and social behavior and results from a complex interplay of professional and technical factors and social and cultural practices” (Ministry of Education, Sports & Culture 2006: 3). Furthermore, policies promoting these practices will focus on the learning institutions, most especially on day to day classroom practices addressing the monitoring, assessment and reporting of student outcomes and teaching effectiveness. Relevance is defined as implying “a system which is meaningful, recognized, applicable and useful to one’s life” (Ministry of Education, Sports & Culture 2006: 3). It has a broad influence enhancing individual and community wellbeing, as well as national development, which includes cultural, humanistic and spiritual aspects. The fourth principle of efficiency in education is “demonstrated by leadership and management practices which ensure optimum use of resources – human, financial and material – at all levels, efficient service delivery, effective communication and coordinated and transparent decision-making” (Ministry of Education, Sports & Culture 2006: 3).

The Samoa Secondary Schools Health and Physical Curriculum Statement

The main purpose of the Samoa Secondary Schools Health and Physical Education Curriculum Statement is to provide a guideline for the teachers who would be teaching the Health and Physical Education

curriculum. The statement outlines the curriculum principles which are based on the principles of the Samoa Secondary Schools Curriculum as stated in the Samoa Secondary Schools Curriculum Overview Document (Ministry of Education, Sports & Culture 1998). The statement outlines the principles underpinning the Samoa Secondary Schools Health and Physical Education Curriculum, and the structure of the curriculum which includes the General Aims, the Four Organizing Strands, the Specific Aims and the Achievement Objectives for Years 9 to 13.

The four strands are:

1. Active Personal Health and Relationships
2. Active Human Movement
3. Active Interpersonal Family Health
4. Active Community Health

Of the four strands, three are focused on health and one on human movement. Each strand has specific aims that develop the general aims. The general aims are to help students develop knowledge and understanding, skills and attitudes towards improving personal health and wellbeing and developing healthy lifestyles through movement and regular physical activity, as well as promoting robust family and community relationships.

Covered also in the document are the generic teaching and learning approaches across the subject areas including the assessment and evaluation processes for Health and Physical Education. This document also provides the teacher with directions on learning outcomes; what is to be covered at the various levels within the four organizing strands. The overall intention of the Health and Physical Education Curriculum (Ministry of Education, Sports & Culture 2004) however, is to develop student's knowledge and motor skills, through physical activity, to promote healthy, active lifestyles and foster moral behavior and other generic skills (Ministry of Education, Sports & Culture 2004)

Following the completion of the curriculum statement, teacher's guides for years 9 to 12 were written and implemented in 2005 (Rasmussen & Sio 2004). The implementation of the Samoa Secondary Schools Health and Physical Education Curriculum (Ministry of Education, Sports & Culture 2004) has been labeled 'A peg in the ground' (Stothart 2000: 5), since this marks the construction of something new, after thirty-eight years, the long awaited curriculum for Physical Education.

My Position

I have been involved in the training of teachers and the teaching of Physical Education to secondary students ever since it was introduced as a subject in the Samoa education system in 1967. As a Physical Education lecturer from 1997-2016 at the Faculty of Education of the National University of Samoa and the co-writer of the Teacher's Guide for Health and Physical Education for Years 9 and 10 and Years 11 and 12; as well as a member of the International Federation of Physical Education (FIEP) Oceania, and a committee member involved in the writing of the Samoa Secondary Schools Health and Physical Education Curriculum Statement, I was interested in teachers progress with the implementation of the Physical Education curriculum and finding out reasons behind the non-development of the subject and the slow progress of accepting it, not only as an academic subject but also as one that has been

recognized as a means of promoting and encouraging active lifestyles (Culpan 1998). This would assist in promoting Physical Education situation and improve practices associated with the training of teachers.

Samoa National Secondary School Curriculum

The 1998 Samoa National Secondary School Curriculum Overview Document (Ministry of Education, Sports & Culture 1998), outlined principles, and learning areas that Samoan secondary schools students must experience and achieve. The curriculum, as referred to by the Ministry of Education, Sports & Culture (1998) contains “planned and structured learning experiences that schooling provides” (p. 5) and curriculum principles are ones that “guide and direct how schools develop, organize and implement learning experiences” (p. 5) There were ten curriculum principles which provided direction and consistency for the development of programmes and related policies, one of which states that “schools will provide an active environment which simultaneously enhances the intellectual, aesthetic, spiritual and physical development of each individual” (p. 6). During this period of time there were ten major learning areas that were classified as secondary school curriculum. Like the New Zealand Curriculum, (Culpan 1998) Health and Well-being was stated as one of the learning areas with Physical Education as one of the subjects that contributed to the learning area. However, in line with Government reforms of the early 1990s, the Ministry of Education Sports & Culture implemented the Education Policies and Strategies 1995-2005, in which changes were made for the improvement of education in Samoa. The Samoan government recognized the importance of education and placed it on its highest priority with a vision for every Samoan to enjoy an improved quality of life premised on a competitive economy with sustained economic growth, improved education, enhanced health standards and strengthened cultural and traditional values (Ministry of Education, Sports & Culture, Samoa 2006: 5).

In order to improve the quality of education, three areas were identified, these being to improve: teacher quality, curriculum and teaching materials and education facilities (Ministry of Education, Sports & Culture, Samoa, 2006: 5). In this policy, seven learning areas were identified with Health and Physical Education being one of the learning areas in both primary and secondary levels. Time allocation for this subject was 3 hours for Years 1-3, 2.5 hours for Years 4 to 8, and 1 hour for Years 9 to 11. Health and Physical Education was listed as a compulsory subject in secondary school Year 9 to Year 11, while in Years 12 and 13 it was optional. Students at this level, (Years 12 and 13) had to take English plus a group of four subjects that were linked to either academic, vocational or employment interests. Time allocation for this level was a minimum of 5 hours per week for both English and optional subjects.

In 2006, a further development occurred when, the Strategic Policies and Plan July 2006 – June 2015 (Ministry of Education, Sports & Culture 2006) was implemented, where sports in education became part of the Health And Physical Education learning area. The policy statement advocated encouragement of participation of all students in physical education, physical activity and sports. It also stated that Health and Physical Education was to be compulsory for 1 hour a week for Years 9-13 and that Health and Physical Education was to be made examinable in Years 12 and 13 (Ministry of Education, Sports and Culture 2006).

Specific problems that were identified in the 2006-2015 strategic policies and plan document was the absence of a sports policy to guide sports development, the lack of maintenance of sports fields that were built and upgraded by the Ministry, the shortage of personnel and the little emphasis placed on Health and Physical Education. This lack of emphasis was also reiterated by the then, Chief Executive Officer, Tautapilimai Levaopolo Tupae Esera (2005) who stated:

Because of the heavy emphasis on examinations and academic excellence, non-examinable subjects like Health and P.E. have too often been sacrificed for additional lessons in Maths, English or other subjects. Hence, PE lessons that are conducted are often ill organized and haphazardly taken. PE in most schools despite having specialized PE teachers mostly consists of students playing around with the ball on the field or using it as a free period to relax and catch up with other studies. In addition because of the shortage of teachers most of the PE teachers are made to teach other subjects

(Esera 2005: 4).

Implementation of a Curriculum

Theorists who have been dealing with curriculum design issues have dealt mainly with curriculum planning and development with little consideration of curriculum implementation issues (Virgilio, 1984). Curriculum design has three main functions: to produce curriculum, to implement it, and to appraise the effectiveness of the curriculum system (Beauchamp, 1968 cited in Virgilio, 1984). With little information on curriculum implementation, this has created some problems with schools who have attempted to incorporate new curriculum.

Curriculum implementation as defined by Virgilio (1984) 'is incorporating and appraising of that which was materialized by the construction and development processes' (p. 58). Incorporation involves trialing of the curriculum and appraising provides feedback on the construction and development process. These processes are important as they help in the preparation and acceptance of the new program. Crucial to the implementation of any curriculum are material support and human support (Virgilio 1984). Material support is most important to begin with, as teachers need new materials, supplies and equipment. Human support is also very important, and the principal is vital in the implementation program, as he/she is in a unique position to influence and authorize curriculum change (Ha et al 2004; Virgilio 1984). Other human support, are the teachers, who play an important role in the success of curriculum implementation (Fraser-Thomas & Beaudoin 2002; Snyder et al. 1992; Virgilio 1984). Faucette 1987 (cited in Fraser-Thomas & Beaudoin 2002) classified teachers as acceptors, conceptualizers or resisters of new curricula and only teachers who accepted the innovations worked consciously in the implementation of new curricula (Fraser-Thomas & Beaudoin 2002). From the research literature on educational change, it was evident that teachers were pivotal in the implementation stages as they were instrumental in the implementation process, but they also had a key role in transforming policy into practice (Cherryholmes 1988; Johns 2002).

Before the implementation of any curriculum, in-service training or professional development for staff is essential for any program to be successful. Because teachers implement the curriculum, they play an

important role in effecting curricula implementation (Fraser-Thomas & Beaudoin 2002). In a study by Gibbons (1995), teachers who undertook in-service training using peer-teaching and observation sessions, found it very beneficial in their preparation for teaching new content. Virgilio (1984) noted that “Most implementation efforts fail because curriculum leaders neglect to provide adequate staff development opportunities” (p. 61).

In implementing a curriculum, such as Physical Education, it is important that the classroom teacher uses schemes of work that the school has chosen or devised (Qualification and Curriculum Authority England 2005) or curriculum statements such as the Samoa Secondary Schools Health and Physical Education Curriculum (Ministry of Education, Sports & Culture 2004). It is important when planning and implementing the curriculum that consideration is given to the needs of the learner, their physical, social, intellectual and emotional development, the classroom and school environment, as well as the special nature of their community. Important also is the understanding of the cultural aspects that are relevant to the student’s promotion and development of physical skills, self-awareness and confidence (Ministry of Education Sports and Culture 2005). In addition, it is important that Physical Education programmes are gender and culturally inclusive, to meet the needs of boys and girls and students with special needs and abilities (Ministry of Education Sports and Culture 1999). These concepts are also reiterated by the Physical Education and school sports programmes in England, where classroom teachers plan their work taking into consideration the pupil and how they would be able to “develop aspects of their fitness, health and well-being as well as their knowledge and understanding of why it is important to be active” (Qualification and Curriculum Authority England 2005: 1).

Implementing Curriculum Change

The design and execution of education reforms. Provide an opportunity for radical breakthroughs in understanding, for giant leaps in learning

(McGinn cited in Macdonald 2003a: 140)

Changes to curriculum or reforms are nothing new. Curriculum changes are normal but what is supporting these changes involve disputes over what has been chosen, the processes by which these changes were made, who made them, what were the intentions and with what results (Macdonald 2003a). Arguments are geared towards what education is for, and for whom knowledge is most valued; the learner, teacher, parent or curriculum authorities (Macdonald 2003a). In the early 1960s and 1970s in North America and the United Kingdom, curriculum packages were, as Macdonald (2003a) called them, ‘teacher proof’, meaning that teachers had very little influence on the content, objectives and assessment tools. Curriculum materials or texts were largely produced by specialist curriculum writers who were not involved in the school system. Teachers and the school education system were to play the supporting role to those in authority, such as educational administrators and their curriculum writers: the main purpose is the achievement of the goals set on curriculum reforms (Macdonald 2003a). This curriculum reform process which Macdonald (2003a) had termed ‘top-down’ is one that has been much used in Physical Education, by countries such as France, England and Wales where the Physical Education curriculum is prepared by a dominant group of education officials, teachers, academics and key stakeholders (Macdonald 2003a). Penney and Evans 1999 (cited in Macdonald, 2003b), had

documented the revival of competitive games and sport in the Physical Education curriculum under this 'top down' form of curriculum change. Another example of the top-down educational reform is the New Zealand's National Certificate of Educational Achievement used as recognition of success for national tests and standards (Macdonald 2003b)

Research that was conducted on curriculum development during the 1970's and 1980's showed problems on goal achievement using the 'top-down', 'teacher proof' model, so changes were made where 'a bottom up' concept came into view, where ownership was given to the teachers (Macdonald 2003b). A new approach to curriculum was then made, and this was known as the School-Based Curriculum Development (SBCD) (Macdonald 2003b). Teachers who were the 'real experts', were given control of the curriculum development Kemmis and McTaggart 1988 (cited in Macdonald 2003b). Kirk and Macdonald (2001) supported the involvement of teachers in curriculum reform as they had "intimate knowledge of their students, their colleagues, their school structures and the resources available to them" (p. 552). However, critics of the school-based strategy viewed the role of teachers as agents of change, as problematic. Subsequently, another model of curriculum change was made which involved collaboration between administrators, curriculum developers, professional associations, researchers, teacher educators, teachers and parents. This model was known as the partnership model (Macdonald 2003b). Fullan 1999 (cited in Kirk and Macdonald 2001) terms it "across-boundary collaboration" (p. 552). An example of this was the German curriculum partnership project, where teachers, administrators, researchers, administrators and in-service providers were employed for the reformation of the science curriculum Riquarts & Hansen 1998 (cited in Kirk & Macdonald 2001) In the United States for example, Ennis 1999 (cited in Macdonald 2003b) described the US peace-education curriculum as "Sports for peace" (p. 142). This curriculum model showed a joint collaboration involving various factors from the schools, professional and community groups, teachers and students. In Australia, teachers are involved in the production of syllabi and curriculum guides and in the trials of curriculum material (Macdonald 2003b; Kirk & Macdonald 2001). This concept of partnership, where the integration of 'top-down' and 'bottom-up' strategies are used for reforms and changes in education, has brought together a variety of stakeholders who have a vested interest in the nature of change in the schools (Kirk & Macdonald 2001; Macdonald 2003b).

Another change to curriculum was the modernist curriculum reform which had its concerns with direct, purposive, systematic and intentional changes. The modernist curriculum reform was centered particularly on schooling, learning, and the young people (Macdonald 2003a), but failed to take into consideration the present-day situation of high modernity Giddens 1991 (cited in Macdonald 2003a) or the post-modern world (Macdonald 2003a). Post-modernity curriculum is an open system which necessitated interactive and holistic frameworks for learning with students as creators and transformers of knowledge (Macdonald 2003a).

A study conducted by Ha et.al (2008) on Hong Kong teachers regarding their views on curricular changes in Physical Education found that teachers felt more secure and confident about implementing changes after being provided with support and collaboration from the school principal and senior administrators. Changes in curriculum are often initiated by government, policy makers and curriculum officers, with very little consensus for change from school administrators and teachers (Ha et al. 2008; Fullan 2001). Fullan and Stiegelbauer (1991) suggested that curricular change is often very challenging in

practice and the process of implementation, which usually follows, is “an interactive and negotiated process between curriculum developers and schoolteachers” (Ha et al. 2008: 78). The success of the implementation of educational policy depends on the acceptance of the wide range of thoughts and daily practices of teachers who are the key players in the implementation process (Johns 2002). Taulealo (2007) in her study of the implementation of the Visual Arts curriculum in the Samoan secondary schools, states that “teachers need more training and time to become familiar with all aspects of the curriculum and (they) need to accept change and be prepared to follow the curriculum content and themes” (p. 11).

As indicated by Ha et al. (2008) the school principal and other subject teachers, including education administrators and others in power, would provide momentum and efficiency in implementing curriculum change.

Perceptions and Attitudes

Teachers’ beliefs and values is another factor that must be considered. Researchers regarding curriculum change have shown that “teachers’ belief systems play decisive roles in the teaching and learning process” (Chen & Ennis 1996: 338). When teaching, the “teacher’s cognitive and other behaviors are guided by and make sense in relation to a personally held system of beliefs” (Clark & Peterson 1986 (cited in Chen & Ennis 1996: 207). This belief system determines what the teacher decides and what content will be taught (Chen & Ennis 1996). These beliefs are important as they are often very hard to change and have an “influence on students’ receptivity to messages received in teacher education” Pajares 1992 (cited in Placek et al. 1995: 246).

The perception and beliefs by some see Physical Education as one that separates the mind and body (Culpan 1996/97) and that “Physical Education is for those students with less intellectual ability”, or that “it is not for high achievers, it is for those who are more practical” (Culpan 1998: 4). These perceptions and attitudes have caused barriers to the implementation of Physical Education. However as Tinning et al 1993 (cited in Culpan 1998) argues, “the mind and body are not separate ...we act both knowingly and intelligently and learn in and through movement” (p. 4).

Quality Health and Physical Education programmes are largely dependent on how they are perceived and valued by those responsible for teaching it (Morgan et al. 2002). Although Health and Physical Education has been recognized as one of the most valuable mediums for encouraging and promoting active lifestyles, it has been historically marginalized as low status (Culpan 1998; Morgan et al. 2002; Johns 2002; Ha et al. 2008) and viewed as a subject that is ‘easy going’ with exercise not necessary or important (Kim & Taggart 2004; Pereira 2006). Because of this view of the subject as inferior, many Physical Education teachers have a tendency to give “students little or no instruction while allowing them free play or other non-physical activities during times that have been allocated to Physical Education” (Kim & Taggart 2004: 1). Another reason for this low status can be attributed to the “lack of official assessment” Hardman & Marshall 2000 (cited in Hay 2009: 214) which according to Hay (2009) some academics in Physical Education have suggested the view of assessment is “a means by which value is attributed to subjects” (p. 214). Assessment also defines the value aspects of curriculum

subjects which provide a tool for assigning value in the form of grades for those who possess a value on knowledge and skills (Hay 2009; Morris 1996). This is also defined by Chan et al. (2006) “any activity or method that is designed to “show what a person knows or can do” (p. 135). Rink and Mitchell 2002 (cited in Hay 2009) argued that in Health and Physical Education “one unintended outcome of the standards, assessment and accountability movement is that any program (or subject) not included in high stakes state level assessment, for all practical purposes, does not count” (p. 214).

Assessment is used as a means of providing grades after teaching has taken place to satisfy requirements and as a record or report about learning progress (Chan et al. 2006; Siedentop 1991). In Hong Kong, a research conducted by Chan et al. (2006) found that certain schools subjects were perceived and legitimized as being of academic value and counted towards the final years’ results, whereas Physical Education was not and this even included students who performed well in Physical Education examinations.

In Samoa, an emphasis on examinations and academic excellence had an impact on subjects like Health and Physical Education which were often sacrificed for additional lessons in Math, English and other subjects (Esera 2005). Pereira (2006) reported during discussions with Samoan parents, that subjects such as Physical Education, Music and Art were seen as a “waste of time” and a “distraction from getting good exam results” (p. 69). Students also felt that these subjects were unimportant because they were not formal subject areas and were not tested but if they were to be examined and graded in reports, then they would be important (Pereira 2006). In 2008, Health and Physical Education was introduced as one of the examination subjects for the National Samoa School Certificate for year 12, and in 2010, as an examinable subject in the regional Pacific Senior Secondary School Certificate (PSSC). The inclusion of Health and Physical Education at Year 13 marks another milestone in the change of attitudes and perceptions of teachers, students and parents towards a subject that has been viewed as a marginal subject, with low status and of little value. The recent examiners reports for the Samoa School Certificate Examination 2008 and 2009 identified strengths and weakness and noted that the one of the aims of introducing this subject into the curriculum was to have it “become a core subject for all schools (because it) is necessary for the life of the child” (Sio 2009: 10). As well as the examiner’s report for the final examination the Internal Assessment Moderation Report for Health and Physical Education for the Samoa School Certificate 2008, remarked that “the ultimate goal is for the students to display their skills in various sports that are not examinable (so that) the progress they make internally will assist them greatly for their external assessment by the end of the year” (Ministry of Education, Sports & Culture 2008: 2).

With Physical Education, becoming one of the optional examinable subjects towards national certificates, changes have been noticeable in the way Physical Education has been taught. At a recent Physical Education New Zealand Conference, held in Auckland, in July 2010, a forum of Physical Education lecturers in universities and Heads of Department in secondary schools, voiced concern over the secondary school PE becoming “more theoretical and less practical” (Jones, 2010, p. 3). The reasons for this change in the practical nature of the subject, according to Jones (2010), are due to the “increasing emphasis and status of physical education as an optional examinable subject towards the

National Certificate of Educational Achievement (NCEA)” (p. 3). As Stokes noted (cited in Jones, 2010) “Throughout my school life I have experienced a number of changes to physical education with the amount of practical having been overtaken by theory. Our assessment has been determined increasingly by our ability to write which is highly academic” (p. 3). Additionally, Harrison observed (cited in Jones 2010) “physical education is often affected by assessment.... We need to make sure the physical is always an important part of the way we are teaching and we need to think about how the assessment is going to affect how much physical we can do” (p. 3). This provides much food for thought in the way Physical Education is now being taught.

Pedagogy and Content Knowledge

Resnick and Klopfer (1989) wrote “To know something is not just receiving information but also being able to interpret and relate it to other knowledge” (p. 4). Teaching is a learned profession. A teacher needs basic skills, content knowledge, and general pedagogical skills (Shulman, 1987). The first source of knowledge base according to Shulman (1987) is “content knowledge - the knowledge, understanding, skill, and disposition that are to be learned by school children” (p. 8-9). This content knowledge relies on the teacher having a good source of literature and a basic understanding of the subject being taught and a wider knowledge base to be able to impart alternative explanations of similar ideas or philosophies (Shulman, 1987). Additionally, Shulman (1987) identified other types of knowledge such as pedagogical knowledge, which relates to the principles and strategies associated with managing and organizing and pedagogical content knowledge as the central part from which skilled teaching and coaching comes from (Siedentop, 2009). However, pedagogical knowledge cannot be isolated from content knowledge, they must go together. In Physical Education, content knowledge is not easily recognized as it is with other subjects such as Maths, English, Music or Art (Siedentop, 2009). The content knowledge the students are learning in the schools in Maths, English, Music or Art are related to what the teachers have learnt during their teacher preparation programmes at university (Siedentop, 2009). As for Physical Education, a number of studies indicate that some teacher educators have eliminated the pedagogical content knowledge for teaching Physical Education (Vickers, 1987, cited in Siedentop, 2009, Shulman, 1987, Siedentop, 2009). According to Siedentop (2009), “pedagogical content knowledge is the ‘main stuff’ from which effectiveness and expertise in teaching and coaching derives” (p. 244). Hoffman (1987, cited in Siedentop, 2009) foretold the demise of Physical Education due to teachers’ lack of knowledge about the subjects that they were teaching. In a study by Ha et al., (2008) on Hong Kong teachers, they reported the lack of confidence in procedural knowledge or pedagogical content knowledge, particularly confidence in applying a wide range of teaching methods for students with varying abilities. The difficulty of motivating female students to engage in physical activities during Physical Education lessons and the limitation of knowledge associated with generic skills was another problem (Ha, et al., 2008). These problems need addressing as, “teachers are expected to understand students’ diversity and individuality and must master all necessary techniques to alter curriculum and instruction on a continuous basis” (Ha, et al., 2008, p. 88).

To effectively implement educational changes, Fullan and Hargreaves (1992a, cited in Ha, et al., 2008) indicated the need for teachers to effect change in their knowledge about present policy and

professional and research issues by accessing good knowledge for improving teaching. Teachers' openness to change depended on their attitudes towards new educational ideas (Brown & McIntyre, 1982; Richardson, 1991; 1996 cited in Ha, et al., 2008).

Teachers' beliefs play an important role in the teaching-learning process. This belief system reflects the teachers' educational values on how knowledge is used in teaching (Chen, & Ennis, 1996). Pedagogical reasoning and action are processes that teachers go through when deciding the content and pedagogy that will be used for teaching in the classroom (Shulman, 1987). To teach is first to understand the ideas that are to be taught, so as to achieve educational purposes so that students will "develop understanding, skills, and values needed to function in a free and just society" (Shulman, 1987, p. 14).

Knowledge and skills that are taught in classrooms should be meaningful to the individual students and delivered in a way that enhances self-esteem and enjoyment in participation. It is important that one should be able to make sense of what has been taught and learnt, in a way that will motivate the learner. As Resnick and Klopfer (1989) stated "to know something is not just to have received information, but also to have interpreted and related it to other knowledge" (p. 4). Additionally Placek (1983) argues that "how teachers behave and what they do is directed to a large extent by what they think" (p. 47). Faoagali (2004) in studying the gap between the old Home Economics versus the new Food and Textile Technology curriculum for secondary schools in Samoa, found that the factors influencing successful curriculum implementation were complex. Contrary to expectation, where schools should reflect their local communities, Faoagali found that they did not. Indeed, the principles and values promoted by the local school system in some cases do not reflect Samoan culture as expected and in fact demonstrates the school in Samoa is a place where "things foreign are taught" (p. 96). Teachers' thinking involves what Jackson (1968, cited in Placek) has termed pre-active teaching, which involves careful preparation and planning of lessons for teaching outside of interaction time with students. During this time, teachers should be able to collect materials, make judgments and decisions about teaching strategies and plan a well-constructed action plan that will result in effective teaching and student learning (Placek, 1983). Physical activities and sports help students satisfy their individual needs in encouraging and developing their abilities which will in turn help them become socially responsible (Chen & Ennis, 1996).

Resources and Training

According to Beauchamp (1968, cited in Virgilio, 1984), "curriculum design has three primary functions: to produce the curriculum, to implement it, and to appraise the effectiveness of the curriculum system" (p. 57). Important in the phase of implementation is the staff development which is pivotal in the success of implementation. Virgilio (1984) argues that most implementation efforts fail because of the failure to provide adequate staff development opportunities. Patterson and Czajkowski (1979, cited in Virgilio 1984) agree that the importance of the major area of staff development being the re-education through a series of workshops that are related to the new curriculum.

For any implementation of curriculum changes, professional development programs are very important in bringing about changes in teachers' attitudes and beliefs, their practices as well as

students' learning outcomes (Chen, 2006; Guskey, 2002; Ha, et al, 2004)). Professional development is a must for teachers and principals as they are continuously learning and must be professional learners (Riley & Louis, 2000; Ryan & Cooper, 2004)). Therefore, professional development, or in-service programmes have to follow to support new curriculum. In-service training helps teachers in the implementation of a program, makes them familiar with the curriculum and provides strategies for its implementation (Ha et. al., 2001). Meaningful professional development is one of the vehicles that will help equip teachers with adequate knowledge and opportunities to develop new concepts of learning, that will help extend their knowledge and help them learn new instructional strategies (Chen, 2006). Ha et al., (2001) found that programmes that involved cooperation with government curriculum officers and university teachers provide innovative ideas and effective learning experiences for Physical Education in-service teachers.

The availability and provision of resources and equipment and the allocation of time are other considerations in implementing a Physical Education curriculum. Dewar (2001) noted that one of the difficulties in implementing the Health and Physical Education curriculum in New Zealand was the allocation of different subject areas into the school's timetable as well as the opportunity to receive further relevant professional development. A study by Penney (2001, cited in Fraser-Thomas & Beaudoin, 2002) on Physical Education teachers in England, found that inadequate training, a lack of resources and facilities and a crowded curriculum led to challenges in implementation. These difficulties were also found by Ha, et al., (2008) in the Physical Education programmes in Hong Kong, where there was a need for adequate resources and an appropriate amount of time to be assigned to physical education if physical education was to be a key learning area.

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Literacy Development and the Samoan Context - A Commentary Paper

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Abstract

A common view concerning literacy is that 'it is one's passport in life' thus implying the notion of success. However, this begs the question - can every child read? What of the so called less able learner in the classroom. Would poor literacy skills be a contributing factor to their lack of success? This commentary paper focuses on the three aspects of literacy as highlighted in the literature with specific reference to the child with literacy concerns in the classroom. First the 'service delivery models in connection to meaningful learning, second is the significance of support and assisted learning, and finally 'parents as support agents.' In evaluating the literature a critique is provided from the Samoan context.

Introduction

This commentary deals with the following aspects of literacy development; service delivery models – making learning meaningful, assisted or supported learning as well as parents as support agents. Each topic emphasizes aspects of research on literacy development. Some of these studies are relevant to the situation in Samoa, my own local area some however, are not. Not surprisingly, culture, social structure, and the dual resistance and ambivalence regarding innovation are part and parcel of a somewhat complex and changing system of meaning, stratification and control where Samoan life and education are concerned. In this context, recent discussions on the role of special education has become in large part my responsibility to introduce to the teaching culture of this society, which lags far behind that of the West.

As an individual who is involved with teaching inclusive education amongst other education courses at the university level, getting involved in the debates I am presently discovering that the literature is still new to me. This is due to the fact that the concept of inclusive education was just introduced to the teacher education program a little more than a decade ago. To have something that is local to introduce to the debates is therefore still somewhat preliminary, although attempts will be made in this paper to do so. In Samoa, we do have an overall issue which is mostly with one another, to develop, promote and make the teaching population and the department of education aware of options developed on the outside that might be applied here. The issue is also in part one of cultural transformation. The above claims, based on my experience, will be read into the findings of these papers.

Literacy and the Cultural Context

Samoa has had a long standing relationship with literacy. The axiom, "knowledge is power" is also found in Samoan traditional discourse. Introduced in the biblical context by missionaries, literacy implied the mastery of western knowledge and the entrance into new areas of power

for Samoans (Dunlop 1993). Less than ten years after contact with the London Missionary Society in 1832, school attendance was widespread (Keesing 1934). With the consistent desire for literacy found throughout Samoa's history (Gilson 1970; Keesing 1934; Davidson 1967) there has been an equally consistent problem in sustaining functional literacy as standardized by both Samoan and Western evaluators. This problem has been based on a number of factors. In dealing with the following literature I shall suggest what these factors are and have been in Samoa as they relate to the literature being reviewed.

Service Delivery Models – Making Learning Meaningful.

The four articles reviewed in this section provide a starting point for the introduction of the issue of meaningfulness into the Samoan remedial educational culture. As a reminder this culture is integrally attached to the overarching culture of Samoa. Issues are raised in these articles that are applicable to the Samoan situation and can form the grounds for retesting Western findings within our indigenous population. For example, the utility of the approaches presented by Reetz and Hoover (1992) could be tested in the Samoan situation. However, as we shall see with other literature these authors' work implicitly raise issues of a cultural nature that may have to be dealt with in Samoa. Perhaps the most critical situation that can be read into the Samoan culture from the Reetz and Hoover article is the notion of social acceptability of remedial initiatives (1992: 14). Social acceptability applies to all aspects of intersubjectivity in Samoa. To be socially unacceptable can easily lead to ostracism, stigma, shame and its associated emotions of anger or depression.

Disabilities that are related to social acceptability, shame, anger and impression management would find correlates in Samoa. Any disability or social phenomenon outside the norm is viewed with suspicion here and would be considered a sign of deficiency. Deficiency is not viewed just as essential to the individual but to the individual's family as well. i.e., "next door lives the family of the stupid one." Physical and mental disabilities are often viewed as curses or as part of the motif of a family or individual being cursed. For example, the fa'afafine, the effeminate men of Samoa are called *mala*. The word *mala* derives from the word *malaia*, which means curse. Given the issues of identity remedial reading will be a delicate matter in Samoa in the beginning. It will require an analysis on the part of teachers, the faculty of education and ministry of education of the vulnerability of being different in this society.

The Kame'enui and Simmons (1999) study challenges the current situation in Samoa regarding the eventual development of an integrated and effective special education regimen. For example in the early 2000, there has been an attempt by the government to extreme special needs students into one school with some initial resistance. In the late 2000, I conducted a research on stakeholders' perceptions of the inclusive education policy that is introduced in Samoa. The findings indicated that in aiming to be inclusive the children seem more excluded within the regular classroom.

These initiatives for promoting inclusive education notwithstanding, one is not aware of any program in Samoa that supports a school-wide intervention model for beginning reading

children or those with reading disabilities. In addition, there is no in situ programme of remedial reading or what we refer to as reading recovery of any kind in Samoa. However, the Kame'enui and Simmons article provides clues to other issues that can be anticipated in Samoan once these initiatives are begun. Kame'enui and Simmons argue that "school district support of the intervention..." (1999: 105) is necessary for remedial reading to be successful. In Samoa there are school districts but they are constructed for administrative and inspection purposes only. Other initiatives are centrally organized by the national Ministry of Education. More authority may have to be given to the school districts in future.

Another issue is the priority of languages. Kame'enui and Simmons suggest that teachers "... are not prepared to address the learning and curricular needs ...for those whom English is a second language" (1999: 106). In Samoa we have a rather ambivalent situation that has yet to be worked out where education and reading are concerned. For almost all Samoans English is a second language. Samoan is given priority in the early primary school years but increasingly English takes over as a language of instruction. Samoan is the language of daily conversation throughout the country. It is the language of customary practices, parliament and in the home. Thus we may have two problems to be remedied in Samoa. The first is remedial reading in Samoan. The second is remedial reading in English.

Based on my own observation and experience there are a number of teachers who do not use a standard English as was the case with Brehaut's (1994) elderly subject. It has also been noticed from observations, that many teachers are reluctant to institute curricular changes. In my experience there has been a tendency for some curricular initiatives to be avoided or ignored by teachers. Perhaps as the authors attribute to Smylie (1988), if teachers were more certain of their English skills they would be more likely to adopt curricular changes.

Finally as the authors argue, "... if you don't read, your vocabulary knowledge doesn't increase and you fall further and further" ...behind (1999: 108). A number of Samoan children rarely bring books home from school, nor do many parents purchase books for children. The Pikulski (1994) article presents some material that would help in offsetting the situation in Samoa once a reading program is underway. They review five programs to improve reading deficiencies that may be valuable in programs to incorporate reading program strategies in future.

Assisted or Supported Learning

The assigned literature in this topic area assists the researcher to understand how the Samoan culture and system of education is situated in current debates. (Talty 1995: 6) presents a number of points that our educational and national cultures must deal with. For example political aspects of classroom activity have relevance for the Samoan classroom and Samoa in general. In Samoan classrooms "pseudo-questioning" is the norm, a practice that reflects a number of other aspects of Samoan intersubjective politics. The authority of Samoan teachers is unquestioned. This is a reflection of "ageism" and "role hierarchies" in Samoa that come out of

the traditional system. Democratic processes between those of perceived differential status are not often tolerated. Teachers set agendas, define situations just as they would in the traditional cultural system.

With respect to other interpersonal politics, the Samoan cultural system is extremely competitive. Village and inter-family rivalry, sometimes fierce, is the norm. I have perceived a very Samoan system of competition in a number of classrooms. It has at times taken the form of outright insults by children of other children who have not done well, or have gotten the wrong answers in classroom quizzes. It is not unusual to “rub it in” to the losing side. On the other hand there is also a traditional Samoan motif of minding relationships and forgiving and restoring harmony. Thus “... the political nature of classroom interaction...” (1995: 6) is one reflection of a multifarious Samoan motif of politics that requires recognition within our educational system if “interaction” and “conversationalism” are to be well understood, and if the latter is to be introduced.

There are aspects of Samoan culture that support conversationalism that the educational system could take into consideration in program development. Samoa is still a strongly defined oral tradition. The culture, its history, the histories of families, and much traditionally legal discourse is passed on orally and stored in the memories of the Samoan people. Some individuals are known as the custodians of the traditional oral knowledge of the family. Samoan children learn traditions through listening and observing. Observations include everything from family and national traditions to the traditional technology of Samoa which includes farming and plantation work, fishing, boat building, and some hunting practices.

There is also a Samoan motif of turn taking. Ideally it is meant to maintain harmonious relations between individuals and groups. This is usually observed in two important areas. The first is in the sharing of family traditional titles intergenerationally. The second is the quasi-democratic tradition of allowing each person to speak in turn when family and village meetings are being held. What one says is of course based on one’s status. It is not usually the case that one chooses to vote or speak against the prevailing authorities, but there is turn taking, nevertheless. At meetings, those who have not spoken are usually encouraged to do so at some point during the meetings. It is a signifier of inclusion and the individual’s competence in aspects of oratory.

Small talk is also prevalent in Samoa and takes its own form. It usually is characterized by an avoidance of most knowledge claims and often takes the form of bantering, humour and satire. Thus parents as tutors (Kemp 1992) might be effective given the aforementioned traditions, and turn taking a possible technical development that might be effective in Samoa where initiatives in reading are concerned. In addition a key attitude to develop in adults would be that time spent on at risk children would be worth it to the family corporation; that lack of initial competence is not a curse, nor firmly established or based on factors essential to the individual.

In spite of a hierarchical system there is also a Samoan motif of sharing between friends or within one’s traditional social grouping where one’s ascribed status is often played out. Thus sharing of reading experiences (Senechal and Cornell 1993) would be a technique to be explored

in Samoan schools. In addition, the viability of both techniques used by Senechal and Cornell (1993) suggests that perhaps other strategies, including those incorporating Samoan forms developed locally may be suitable for testing in future initiatives in Samoa. (Kemp 1992: 202) anticipates another problem that Samoa faces in his notion that "... we need to know the social contexts within which helping-to-read takes place". Once again I turn to aspects of the culture that require analysis and understanding. The impatience with the slow learner or slow reader may illicit impatience on the part of parents for a number of reasons common to Samoans. There is a tacit non-clarification rule in Samoa. That is Samoans in authority expect individuals after a certain age not to ask for clarification of commands or instructions.

It is not unusual for parents to lose patience with children as a result of a request for clarification. Such requests could result in verbal chastising. Children with learning disabilities could be discounted early in their lives, a child could be withdrawn from school and directed into manual or plantation labour. Poorly educated or at risk children may leave the family, move to another family within the extended corporation. Very large families may tend to only educate those who progress "normally" and immediately give up on those who don't. I have heard it said that it is not worth the time and money to stay with them until they eventually develop. I would hypothesize that this motif is a source of a great deal of psychological malaise in Samoa, in particular as higher education has become increasingly valued and rewarded. The education of children may not necessarily be provided to the child for its intrinsic value or for the future use of the individual. Children are educated in large part for the benefit of the family and the aggrandizement of its status and material resources. This is a reality in Samoa based on the traditional system based on indigenous exchange values. Thus negative prejudice discouraging to a child's development may be established early in the child's development due to some of these cultural motifs. Techniques like "scaffolding", and undoubtedly others require an educated, well-informed parental group, willing to abandon entrenched ideas about the value of educating at risk children.

Parents as Support Agents

The Furniss (1993) paper reviews literature up to the early 1990s. Family literacy consists of parents taking part in the education of children to varying degrees (Furniss 1993: 137-138). Her review suggests a rather complex interdependence between a set of factors where family literacy is concerned. These include resources of school and home, the issue of the possible social reproduction of reading and writing difficulties and the availability of funding for resources and re-education. While she ends her paper with a warning from Nickse (1991) regarding claims made for the effectiveness of family literacy (in Furniss, 1993:145) the literature reviewed is generally positive about the relationship between parents and their children's literacy.

While a valuable piece, I believe that Furniss is uncritical of the social context in which the literature she reviews is situated. She tends to reify the concepts of "home" and "school" without providing due analysis of the cultural context in which they are situated. In Samoa,

home and school implies relationships of power, jurisdiction and exclusivity. There is little about this relationship that implies that a process of mutual cooperation could exist between the two spheres of influence in pursuit of the common goal of reading intervention.

The Samoan context, however, supports some of her findings. The literature on Samoa has indicated that the latter is a highly stratified and authoritarian society (Macpherson and Macpherson 1987). I have found its authoritarian nature prevents comfortable relationships between home and school. Teachers are considered to be in authority and parents are seldom invited to input into curriculum or tutoring. I have noticed that there are differences in Samoan family literacy activity based on status and class. For example, anecdotal evidence indicates that those students whose parents are well educated or are part of a subculture of obtaining higher education tend to do better than other children where literacy is concerned. This is due to the fact that literacy practices and English speaking begin early for these children.

There are major issues between centre and periphery in Samoa. Generally speaking schools outside the one urban area of Apia have few library resources and a learning context that is thought to be less conducive to literacy than in the urban area. There are a myriad of schools in the urban area, few of which are private and well funded by parents who are able to pay. Thus it may be safe to say that there are status and class issues in Samoa based on wealth. There are no programs in place in the government schools, which constitute the overwhelming majority of schools that encourage home- school literacy activity. For over three generations many rural adults have sent their children to Apia for education rather than keep them in the village setting. There is a general belief that the home is not a place to promote literacy and that it is the school that should find the resources to do so.

The Coots (1998) paper deals with parent participation in schooling in the context of children with delayed development. Coots found a number of factors that influenced parent participation. These included the family's socio-economic status, the status of the child, and the attitudes of and beliefs of parents about school. While an interesting preliminary outcome, with some statistically significant results being claimed, these results are not generalizable due to a small sample (n=35 families; n=103 children) which was not randomly selected. They may, however, fall into the category of a pretest, whose hypotheses can be subject to more scientifically rigid methodology in future.

In contemplating applying Coots' methodology the variable categories utilized would have to be modified and operationalized for the local context. For example, family resources should include the number of adults at home. A large number of adults at home is not uncommon in Samoa, in addition to parents.

The cultural factors noted above notwithstanding, if well educated they can provide a valuable resource for the teaching of children. It is hypothesized that informational resources would show an extremely skewed distribution due to the few people in Samoa who possess educational resources at home and the few libraries that are accessible to children. In spite of growing disparities due to class, socio-economic status may not necessarily correlate with educational level and wealth, due to the peculiarities of the Samoan system of reciprocity and exchange, and

the system of choosing chiefs of families who are the prime organizers of these social forms. This system can lead to the constant depletion and replenishing of resources due to the traditional Samoan system of exchange. What would be a possibly equally valuable indicator would be the district one lives in and the amount of the pooled resources of all adults, the status of one's title, or if one's father is a pastor. Each category would have to be examined, perhaps by informed Samoans or with a pretest as to how and if they should be operationalized. It is more likely that a preliminary study using qualitative methodologies, participant observation, and a variation on content analysis of the resources themselves would lead to the discovery of categories that would be more culturally relevant sources of variation of parent schooling measurement that could be used in future studies.

A basic assumption of McCarthy's review of the literature on literacy activities in the home environment is that "virtually all children in a literate society have numerous experiences with print before beginning school because literacy practices are embedded within the social fabric of family life" (McCarthy 2000: 145). In the context from which I and other Samoans have derived our literacy, this claim is defensible but again in a decidedly local context.

One can argue that the most widely read book in Samoa is the Judeo-Christian bible in its Samoan translation. There can be little doubt that most children have been exposed on a daily basis to adults reading the bible. This example supports the author's claim. I have found very few Samoans who employ literacy for other than religious purposes. A few read Western novels, and those involved in school work will on occasion borrow books from an extremely impoverished library system.

McCarthy's argument of differences between home and school perceptions of literacy, discursive styles and perception of the roles of teachers and parents has been independently debated in Samoa over a number of years. Conservative Samoan educators have argued for a "Samoan only" set of discourses and pedagogical techniques conducted exclusively in the Samoan language (personal observation; Aiono Fanaafi, unpublished communication). This argument falls on the side of domestic priority, which is partly supportive of McCarthy's argument. On the other hand this raises the issue of the Samoan context, i.e. the home, as an impediment to literacy and learning based on the argument of the primacy of the Samoan language and adult needs. Samoan custom where adult-child relations are concerned may have to be modified in certain contexts for functional literacy to become firmly entrenched in Samoa based on adult participation. This viewpoint is opposite to the argument proposed by McCarthy.

Callahan et al. (1998) studied the effect of the participation of parents in the homework activities of children who were "at risk" in the study of mathematics. The result showed that the intervention of parents led to overall performance that "... increased significantly during intervention (Callahan et al. 1998: 135). In addition to issues with the study such as sample size and lack of a control group, issues that I also felt were problematic, the design seems over-controlled by team leaders, pretests and validity checks, to the extent that one wonders if a "Hawthorne Effect" might have in fact resulted from this design. These issues notwithstanding, I

was driven by the desire to carry out a similar study in the Samoan context and to see whether this study can be replicated in Samoa. In late 2000, I carried out a small scale study on parental participation in children's education in Samoa (Tufue 2016). The design was more explorative in nature for I was interested in participants' views on parents' involvement in children's education. The finding supported Callahan et al. (1998) study.

Conclusion

The above commentary on the literature reviewed has set it in the context of Samoan custom. A number of questions are begged from this review that should provide a rich basis for future research in inclusive education and reading recovery in particular that I will be able to direct teacher students towards. As I and my colleagues become more familiar with the debates in the literature I believe we will be able to make valuable additions to them.

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Fagogo: A Samoan Pedagogical Tool.

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Abstract

Children of every Culture learn in their own unique ways. Samoan children in particular assimilate Western ideas and models of acquiring knowledge believed to be lacking within their own Cultural traditions. 'Fāgogo' - the Samoan stories of the night– draws upon knowledge of good pedagogical ideas that are useful to inform practices that could transform and improve the teaching and learning of Samoan children. The wisdom required in the teaching and learning by Samoan children is the heart of fāgogo. Hence, fāgogo offers a useful Samoan source of pedagogical ideas. Educating Samoan children without the analysis of Samoan wisdom merely serves, ultimately, to deaden the souls and dim the minds of the people, weaken, and devalue, the foundation of Fa'a-Samoa.

Background - *Ata o le Folasaga*

My father's *fāgogo* instilled in me *A'oga mea uma* or Education is everything. His *fāgogo* enriched the foundation of my learning through warm relationships and sharing of realised dreams. My father's *fāgogo* sent me to sleep realising and understanding the valuable and loved heritage of a unique place and people. In *fāgogo*, the *a'oga* insidiously entered my young mind and I built structures and an understanding of what life is, the decisions made requiring the use and application of Samoan metaphors and relationships that became my first resource for thinking and taking action. My father's *fāgogo* elucidated in the calm and peace of the night what life was, what I was experiencing and what the future might hold. It is this context of an enriched oral tradition that I grew up to make decisions that sought answers from a Samoan experience and philosophical wisdom. This foundation imbued a confidence and assurance in my identity.

My father's words are a powerful reminder that in the abundant, bountiful, global life of today, the current generations appear to be losing their essential selves, abilities, qualities that were developed and preserved through traditional Samoan non-formal pedagogical practices.

The significance of educating young children in Samoa using *Gagana Samoa ma Aganu'u*, Samoan language and culture has been a critical and pivotal issue for the Samoan people. The deep value of the *Gagana Samoa ma Aganu'u* as a basis for learning Western knowledge has not been well understood. In the desire to keep pace with a world full of technology and economic advancement, the majority of Samoan people focused their education on the formal, pedagogical constructs, imported and used by Missionaries who arrived in 1830 (Ministry of Education Sports and Culture, 2006). For many years, the Western formal education system overwhelmed the Samoan people and their values; ways of acquiring knowledge, thinking and learning were relegated to the back.

As a consequence, the ideas and beliefs of Samoan people about the *Gagana Samoa ma Aganu'u*, as the basis of the learning process, had become quite insignificant. Furthermore, particularly the younger generation took *Gagana ma Aganu'u* for granted. This ignorance further undermined the contribution of Samoan language and culture as the foundation and means for learning and living a life enriched by meaningful production of its cultural lineage, heritage, and history.

As an educator of Samoan children, I have a clear position of the status of *Gagana Samoa ma Aganu'u*. Moreover, my own upbringing, of formal education in Samoa, compelled me to review the value of *Gagana Samoa ma Aganu'u* in view of current educational ideas and beliefs in relation to my identity. I believe that my own parents' fervent wish to imbue in their children the language and cultural significance of our ancestors contributed to an in-depth meditation about ways of thinking and searching for wisdom. It is this desire I have delved into the importance of *fāgogo* as a traditional pedagogical tool.

Fāgogo are stories told, particularly by the elderly to the very young, at night. *Fāgogo* can be counted in the same pedagogical category as night tales, sagas, wisdom tales, ballads and bed time stories. In my position, I believe it is my profession and obligation to continue the relentless work that had been laid by forefathers and past generations. The fruition of this dream would require investigating local pedagogical tools to enhance the education of young children to appreciate the Samoan language and cultural practices as opportunities for acquiring knowledge and skills.

It is through exploration of *fāgogo* in *talanoaga* or critical conversation which would provide evidence and reveal it as a pedagogical tool incorporating knowledge and values. *Fagogo* as a creator and co-creator targets stories of childhood experiences, the history of navigation, the legends of the warriors of the land and sea, of evolution and procreation, and the many islands that make up Samoa. *Talanoaga* is the framework for understanding the learning system of Samoan children in the culturally attuned context. Participants identify the significant cultural elements in *fāgogo* that are unrecognized in building practical knowledge and skills and central to the question 'How is *fāgogo* a source of Samoan pedagogy?' Recognizing policies on the use of Samoan traditional pedagogical practices would benefit children in learning about themselves, their heritage and other people.

Brief History of Samoan Education - *A'oa'oga i Samoa*

The formal education system in Samoa was introduced during the colonisation period of the nineteenth century through the London Missionary Society (LMS) (Meleisea 1987). In its establishment, the Western system of formal education replaced informal and non-formal learning in traditional Samoa. The pedagogical practices and values used in formal Western education began influencing the Samoan people in how they acquired knowledge and skills which departed from their own values and culture. In this situation it designated the status of *Gagana Samoa ma aganu'u* in educating Samoan children to a lesser position.

In the early eighties, twenty years since Samoa gained independence; my experience at school indicated a lack of confidence in the Samoan language and culture as a basis for learning. This was evident in schools where speaking Samoan was forbidden despite the high percentage of Samoan students that spoke Samoan as their first language. Learning continued to focus on success in external examination from learning foreign concepts and ideas that were unrelated to Samoa and its way of living and knowing. Learners were content to learn formal Western knowledge and pedagogy but they also ended up being further detached from the Samoan way of life. In general, the ideas and assumptions of Samoans largely remained unchanged even after independence and taking control of its education system.

The beginning of the 21st century was envisaged to bring a new era to education in the Pacific including Samoa. Throughout the Pacific, failure of education systems to graduate young people to become productive members of society continued to be a major concern (Puamau 2005). As a result Ministries of Education reviewed policies, designed and implemented curriculum to provide effective education for all learners. The Samoan Education Strategic Planning and Policies 2006-2015, articulated "...a process realized through informal, formal and non-formal systems, to which family values, traditional rituals, cultural and spiritual beliefs contribute towards its success" (Ministry of Education, Sports and Culture 2006: 12). The document stipulated that an educational system that recognized and used cultural values and practices would be successful. The Samoan Prime Minister in 2007 called for the revival and strengthening of the Samoan language and culture at all levels of the education system. Obviously, the need to blend the best global approaches with local values and ways of thinking was recognised. In this way traditional Samoan pedagogy and *fāgogo's* contributions to the system of education, as a traditional, non-formal pedagogical practice was acknowledged.

Retrospectively, for a Samoan in Samoa, the culture is our education, because life revolved around our *fanua* or land. Education established that successful use of the *fanua* enriched people's lives by integrating western and traditional pedagogies. Today globalisation has challenged people to merge their traditional practices with Western knowledge for effective learning nationally and globally. Our *fanua* is educative and inherent opportunities of traditional pedagogies would be significant, contributing to academic pursuits as many Samoans have come to know and believe.

Opportunity - O 'Avanoa

Educational policy made attempts to ensure Samoan society is equipped to engage confidently in a 21st Century of rapid change. However, Samoa should consolidate a common foundation of learning based on local traditional, social and cultural practices, which can subsequently be used as a shared plan and common 'ground' for a comprehension of culturally-external, professional and technical knowledge and skills. When the core values of *fa'a-Samoa* are in place and underpinning learning, then academic, social behaviour and cultural excellence are likely outcomes. For more successful learning, decisions of educational planners, policy makers, educators and parents utilising society and culture's past experiences, could shape change in a

more co-ordinated and integrated way. Decisions would now require an acceptance of Samoan indigenous knowledge, skills and values. Samoan educators and people need to re-affirm faith and trust in the deep values, principles and practices of their traditional culture in order to re-develop and reclaim solutions to Samoan educational challenges and problems. From a Samoan perspective on language and culture, unpacking *fāgogo* for insights and understanding of the essence of Samoan culture is an essential base for learning. In particular, the pedagogical elements of *fāgogo* are critical. These elements could inform the teaching of Samoan children in their traditional language and culture and be used as the foundation for learning other foreign languages and knowledge.

As Western influences and globalisation expanded, the desire for Samoan children to keep abreast with the change has encouraged a one-sided pursuit and disregarded the significance of the Samoan language and culture to learning. The acculturated ideas and beliefs from external sources have literally eliminated Samoan trust in their own inherited wisdom, as well as self-confidence and self-respect in the Samoan language and culture. The importance of learning other cultures' knowledge and skills that have contributed and continued to input into the development of education in Samoa cannot be overlooked. Subsequently, *fāgogo* needs reaffirmation and recreation as a source of success that existed in the Samoan language and its cultural practice.

The Samoan language words and expressions as used in this article highlighted its significance in educating young Samoans. Often, translations of Samoan words fail to capture the essence and deep contextual significance which best and artfully communicated meaning.

What the Literature Offers - Nisi Su'esu'ega

(Freire 1970, 1987) and (Skutnabb-Kangas 2000) worked with the education of indigenous people. The ideas addressed converting 'the poor' and 'oppressed' into self-initiated learners and actors. Freire stated that "man's ontological vocation" (as he called it) was "...a Subject who acts upon and transform his world, and in so doing, moves toward ever new possibilities of fuller and richer life individually and collectively," (1970: 140). Freire's suggestions ideally suited the situation that educating man about himself and his immediate surroundings also defined and suggested possibilities of a successful life. Freire believed that understanding the strengths of one's own culture is a source of pride and empowerment. The importance of *fāgogo* to Samoan people in search of richer pedagogical ideas visualised transforming thinking and practice of conventional Samoan educators who currently use mostly Anglo-Western originated models and techniques to the exclusion of traditional approaches. To begin with, the studies by (Freire 1970, 1987) and Skutnabb-Kangas (2000) provided lens through which the literature had been reviewed. At the heart of these authors' work was a deep-seated desire to inspire students to have strength and faith in their own language and culture that would equip them for the struggles in the world around them. The authors constantly reminded the reader that people's pride in their identity are strengthened and empowered through having profound knowledge of their own language and culture.

Similarly, the studies of indigenous communities by Skutnabb-Kangas (2000) also highlighted how devaluation of heritage language and culture of indigenous people disempowered and removed their source of knowledge and strength. Authors suggested that people must not discount their own ways of learning as losing them meant denying their power and freedom to express themselves. The ideas from the work of Skutnabb-Kangas and Freire pointed to the significance of one's language and culture through education to develop self-awareness of what was offered and interpreting the world in one's own words. The outcomes of working with indigenous people in their struggle for empowerment prompted similar communities around the world.

Samoan people are natives of their own land; however, the process and ideas used in their education during the period of colonialism greatly impacted Samoan people's thinking about their language and culture. The educational message that was hammered into generations up to the 1980s was learning to speak the English language was deemed superior to learning and speaking the Samoan language. English provided additional opportunities beyond what the Samoan language and culture possibly could offer and so the oppression of Samoan-specific deep philosophical structures and understanding developed over a millennia of living was downgraded. The ability to explain life and cultural-educational concepts in the familiar Samoan context was degraded. Samoan language and culture were further devalued and diminished through lack of formal use during the formative and foundational years of schooling from ages five to eighteen.

In a desire to change the colonial perception of the value of Samoan culture, *fāgogo*, a Samoan ritual, as a pedagogical practice was highlighted. The *fāgogo* is specific and unique to Samoan people. Studies by Wajnryb (2003) and Grenbole & Whaley (2006), discussed the significance of stories in other cultures to the education of people, and both favoured *fāgogo*, stories told in the night, as significant to the Samoan context in relation to educating children in the *fa'aSamoa*.

The *poto fa'aneionapo* or success in the modern world was featured in the work of Wendt (cited in Mallon 2002: Sharrard 2003) and Figiel (1996) which stated that *fāgogo* of the elders positioned its listeners to better understand the conduct and meaning of life. They contended that *fāgogo* has a place even in the modern world. They also highlighted that *gagana muamua* or first language is vital in educating people about Samoa because the indigenous language expressed fundamental understanding of the relationship of people and their life and place in Samoa.

The significance of *fāgogo*, as underscored in the literature, emphasised that *fāgogo* offered pedagogical value that could extend and enhance the teaching of Samoan children in Samoa. As Freire (1987) and Skutnabb-Kangas (2000) emphasised in their work, every human being is capable of looking into the world in a dialogical encounter with others and in doing that people discover their potential as they name the world in their own words. Insights into the significance of *fāgogo* for people's language and culture provided a future for traditional ways of thinking and learning. It has been mentioned that while the literature pointed to the significance of

fāgogo to Samoan language and culture, the focus should be on how *fāgogo* act in the pedagogy of Samoan children. Smith (1999) articulated that Pacific people should implement research methodologies that are familiar in form. In Samoa, the *Talanoa* approach is a critical dialogue and appropriate (Manu'atu 2000; Vaai 2002; Vaioleti 2003; Halapua 2005) amongst others.

Learning Model - *Aga e A'oa'o mai ai*

'*Aga*' is a component of the Samoan concept *aganu'u* and refers to all the behaviour and movements of every member of the group, while *nu'u* refers to the group as a whole. *Aganu'u*, *o tu ma amioga a tagata o nu'u ta'itasi sa masani mai ai anamua e tutusa uma ai nu'u o Samoa* (Mailo 1992). In translation, it means "the customs and traditions that are common to all villages in Samoa."

Fāgogo is one such tradition that is common to all villages in Samoa, hence it is very much a part of the *Aganu'u*. *Fāgogo* is a *aga* that commonly serves both the entertainment and educational needs of Samoan children. This used the model of an elder storyteller who engaged the Samoan language in a powerful yet persuasive way to help the young obtain knowledge for survival in their time and place. *Fāgogo* employed both the strong Samoan oral literature and the well-practiced storytelling ability of the eldest family member. *Fāgogo* flowed from the oral literature reservoir and wellspring characterised by genealogies, oral traditions songs and stories. As a Samoan art form it explored the relationships of people to people and people to their life in Samoa, providing knowledge and hard-won wisdom.

The Foundation - *O le Fa'avae*

Culturally, people gained knowledge through various experiences and rituals that are unique to their own culture. Two cultures rarely have exactly the same words or expressions to define the unique rituals and cultural experiences that serve life in their particular place. Moreover, the rituals and traditions offer greater benefits and advantages to those who initiated and practiced them than anyone from a different place could fully appreciate.

Manu'atu (2000) defined pedagogy as the science of teaching and learning, drawn from Freire's philosophy (Freire 1970). In this definition, science is referenced as knowledge. The knowledge of teaching and learning which produced ways of how people made sense of the world they live in. Pedagogy gave human beings the opportunities to form relationships amongst themselves, be it in the family, the school, the community or even in a foreign place. According to Freire, 'Pedagogy is concerned with relationships between the 'words and the world' (Manu'atu 2000: 90). Understanding the conducts and traditions of how one learns in the culture provided an explanation on how people form the crucial bonds and connections among concepts, the words and the world.

When people no longer feel free to think their own thinking and cannot name the world in their own words, they are easily assimilated into new dominant cultures with new knowledge that would be totally foreign and meaningless to them (Freire 1970, 1987). As Freire (1970)

deliberated on his experiences that influenced the lives of landless people in Chile, Sao Tome, Brazil, Principe and Guinea-Bissau it was his aim to convince peasants and landless people to think and change their current situation by learning more about themselves, their identity and knowledge to empower them in their struggle in the Western world. Freire posited that the “anthropological concept of language and culture is central and indispensable to the education of the people in their coming to know the world” (Manu’atu 2000: 89). Freire asserted that teaching and learning one’s own home language and culture was crucial in understanding the significance and value of one’s self.

When people fully understand and appreciate their historical and traditional ways of learning, only then could they ground themselves in their heritage and culture. In that sense, neither foreign ideas nor change would be easily accepted or understood (Freire 1987). Freire stated that one’s own cultural strengths constructed through one’s own cultural pedagogies, was the foundation of the thinking and conceptualization that supported a critical view of the world. It reinforced the theory that strength and values of one’s identity came from knowing and understanding one’s own *fāgogo*, one’s own cultural stories expressed in one’s own home language. Freire realised that those with whom he worked with led difficult lives and that freeing themselves relied on recreating or re-expressing their own significant stories that defined their identity.

Samoan people learnt about their identity in ways that were specific to themselves, such as *fāgogo*. Even though the Samoan language and culture dominated everyday life under colonisation, the powerful influences of Western ideas proved too strong as people sought a different standard and way of living consistent with the material wealth of the colonisers. The attention and value given to the Samoan pedagogical culture of learning decreased to near non-existence and that situation has continued to greatly impact people’s thinking.

Over the years, however, the cultural environments have changed, for both the colonialists and the Samoans. Interestingly, both sets of people now search for knowledge and wisdom of the Samoan culture that was previously taken for granted and depreciated. The recognition of culture as an attribute of a person in a particular place and time, is more prevalent and now credited as a contributor to success psychologically, economically and ecologically.

Contributive pedagogies theoretically rely on relationships created and produced in valuable learning contexts which were not fixed, but created and recreated as students and teachers engaged in the process of coming to know (Freire, 1993). Relationship was important as a source of *fāgogo*. As a Samoan cultural pedagogy, *fāgogo* in the Samoan context, explored relationships and worthwhile learning contexts to support the learning process. Moreover, contributive pedagogies were created from language and cultural practices that were commonly used and familiar, which valued and used the behaviors that were common and understood within a community of learners.

Conclusion - *Fa'ai'u*

The significance of one's Gagana ma Aganu'u in the learning process is also revealed in the *fāgogo* or story telling ritual in Samoa's context particularly for children. The foundation of learning as revealed by the literature and the writer's experiences has roots in the home place before proceeding to the formal learning context. *Fāgogo* rituals in Samoa, served as entertainment for children but most importantly imparted ideas of good pedagogical practices that Samoan children could use to enhance future learning.

Overall the picture as supported by the literature, is that *fāgogo* in the Samoan context captured Samoan world views, valued the language, reinforced a sense of belonging and identity, and most importantly the nurturing of the young mind with pleasure, contentment, and love. It is explicit from the analysis of information sources that *fāgogo* is ideal in developing good pedagogical practice for Samoan children where all social, mental; emotion and spiritual elements are nurtured. Learning comes alive if it involves ones 'words and world'.

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Technical and Vocational Education Training for Sustainable Development in the Secondary Curriculum

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Abstract

This project identified the absence of well-defined TVET policy at the MESC which would contribute to a sustainable and effective managing and implementing of TVET courses at the national and school levels. TVET courses are necessary for individuals as they provide basic skills for lifelong education as well as wage and self-employment. It is regarded by many of its stakeholders as 'second class' rather than a 'second chance' education option. The lack of parental and community participation in the management of TVET courses at the school level has made it difficult for sustainable and realistic implementation. Moreover, indigenous knowledge and skills were not adequately catered for in the TVET courses and thus the graduates were not sufficiently prepared for relevant employment opportunities in Samoan rural setting. There is a need for on-going professional staff development programmes in TVET at the national and school levels. There existed a shortage of appropriately qualified and experienced people to implement TVET courses successfully.

Keywords: (TVET, sustainable, second-chance, lifelong)

Introduction

It is widely recognized that Technical and Vocational Education and Training (TVET) is a crucial component in the development of an individual as well as a nation. This is because TVET encompasses a range of training programmes, courses and activities designed to address personal and national needs. A United Nations Development Program Report on Curriculum Development in the South Pacific (UNDP 1997) clearly stated the great need for Pacific educators to create more relevant curricula in schools. Such curricula should be sustainable and based on the needs and requirements of island nations and be distinct from those of the colonial masters. The Second International Congress on TVET in Seoul, Korea 1999 declared that TVET has a fundamental role to play in preparing young people for employment and a fulfilling life as well as accelerating social and economic development of the country (UNESCO 1999a). The 1976 United Nations Educational Scientific and Cultural Organization (UNESCO) conference on TVET urged the less-developed countries to introduce vocational and technical subjects in secondary schools and other levels of the education system (Network in Education Innovation for Development in Africa (NEIDA), 1982). If the small Island Countries of the Pacific is looking to education to facilitate sustainable development and reduce the unemployment in youths, then it is crucial to improve the provision of TVET in the Pacific region (Wilson 2020).

The theoretical and conceptual underpinnings of the study were informed by the literature on change management, TVET and the fieldwork data. While the conceptual framework of the study took shape as the study unfolded, Fullan (1991) three-stages of the change process -

initiation; implementation; and institutionalization was useful in analyzing the status of TVET in Samoa, particularly looking at the secondary level of education.

There is a perceived need to establish a balance between the traditional academic areas and the practical-oriented vocational subjects. It became clear that vocational-oriented subjects were required not only by technologists, technicians and artisans but also by the majority of pupils who would not proceed further in the formal school system. The initiatives by UNESCO and UNDP led to the development and improvement of many TVET programmes in Pacific Island Countries (PICs) such as Fiji, Kiribati, the Solomon Islands, Tonga, Vanuatu and Samoa (Asia Development Bank, 2008). This was an attempt to ensure student attrition was curbed with opportunities to venture into practical areas which most PICs needed. Nevertheless, TVET in these countries has remained a weak partner in the formal school setting or academic-driven school curriculum (Burnett 1999; Sharma 2000; Aveau 2003). In Samoa, TVET programmes have been upgraded to align with the new technology and the wage employment sector including the focus on sustainable development.

Vocational subjects, however, have remained as optional subjects in the school curriculum. For this purpose, it is appropriate to define TVET in the Samoan context. Technical and Vocational Educational and Training (TVET) is seen in the Samoan context as any formal or informal training that teaches people the knowledge and skills necessary for wage or self-employment opportunities as well as for further education and training (Government of Samoa 2000a).

TVET in Samoa

The three TVET courses offered in schools are relevant to the needs of the Samoan people but teachers were not sufficiently empowered about TVET teaching. Moreover, unavailability of suitable resources hindered its successful implementation. At primary level TVET courses were not offered and hence there was no smooth transition of knowledge and skills from primary to secondary schools.

Samoa's economy backbone is in agriculture, fishery and tourism. As such there is an acute need for more TVET courses in these subjects in the secondary school curriculum. Due to the lack of job opportunities many young Samoan graduates are forced to migrate to overseas countries for better employment opportunities. The teaching and learning process in the classroom is teacher-centered although this is gradually changing to student-centered but continues to be examination-driven. Consequently, TVET does not receive the attention it deserves in the school curriculum. Results from this project have significant implications for policy and practice as well as for future developments.

TVET in Higher Education

When this study was undertaken the main provider of TVET in Samoa was the Samoa Polytechnic Institute (SPI). It was established in 1963 under the name Western Samoa Teacher's

Technical Institute (WSTTI). It focused mainly on prospective teachers in the Vocational areas. The Institute was upgraded to a tertiary level in 1993 and became Samoa Poly-technical Institute (SPI). SPI was merged with the School of Maritime Training in 1998. The Institute offered TVET courses in management, plumbing, carpentry, auto-motive, engineering and designing, crafting (Government of Samoa (GOS) 2000a; Aveau 2003). In 2006, the SPI merged with the National University of Samoa as the Institute of Technology, and in 2010 it was known as the Faculty of Applied Science that oversees the Schools of Engineering, Nursing and Health Science and Maritime. It continue to offered courses in the certificate and diploma levels. During this time it only catered for students who had completed senior secondary schools up to Year 12 or Year 13. This implied that early school leavers did not have the opportunity to enroll in technical courses. In 2016, the School of Applied Science became the Faculty of Technical Education (FOTE) with a broaden vision and goals in educating young Samoans. Now FOTE continues to offer a variety of courses in Construction, Electro-engineering and Mechanical engineering in the certificate, diploma and degree level (NUS Calendar, 2021). In addition to NUS providing technical and vocational educational training, The Australia Pacific Technical College (APTC) based at Papaigalagala also offered a variety of TVET courses in Carpentry, Air conditioning, Electro-technology, Fashion designing, Plumbing, Tourism and Hospitality, Cookery and Floor Tilling to name a few (<https://www.aptc.edu.au/courses/course-fees>).

There were also post-secondary technical institutes privately owned by religious organizations. They played an important role in providing TVET training for the early school leavers (GOS 2000a). This was welcomed by parents as students have the opportunity of staying on in school to learn employable skills. Table 1.1 below indicated such privately-owned technical institutes.

Table 1.1: Non-Government Post-Secondary Institutions

Institutes	Location	Owner
Don Bosco College and Vocational Center	Moamoa, Upolu and Savaii	Catholic
Leulumoega School of Arts	Leulumoega, Upolu	CCCS
Sauniatu Agriculture School	Sauniatu, Upolu	LDS
Penehuro School of Arts	Lelata, Upolu	Private
Punaoa Technical School	Faleula, Upolu	Methodist
Uesiliana Vocational Center	Savaii	Methodist
Vaiola College	Savaii	LDS
Congregational Christian Church of Samoa Vocational School	Savaii	CCCS

(Source: GOS - Samoa Polytechnic Corporate Plan 2001-2002, 2000; Batram, 2004; <http://www.aptc.edu.au/news>, 2019).

Samoa does not have separate TVET schools at the primary and secondary level. However, technical and vocational courses such as Design and Technology (DT), Food and Textile Technology (FTT), Agricultural Science (AS), and Business Studies (BS) have been integrated in the school curriculum as optional subjects for Years 9 to 11. Consistent with UNESCO and UNDP curriculum project, the Ministry of Education, Sports and Culture (MESC) in Samoa extended these vocational courses (DT, AS and FTT) to Years 12 and 13 in the late 1990s but it was not examinable in the SSLC and PSSC until in the late 2000. This initiative was taken to strengthen the range and level of skills of secondary school graduates.

Despite the efforts discussed, TVET continued to receive minimal attention that it deserves in both the primary and secondary curriculum. (Sharma 2000) indicated that some educators, parents and students perceived TVET as a 'second class' rather than a 'second chance' option. This perception is also seen in other developing countries such as Nigeria. (Nwagwu's 1998: 122) study of Nigerian students reveals that both parents and students preferred the Grammar schools, TVET were only accepted as a 'second choice'. A Report by the Commonwealth Secretariat on TVET in the Pacific Region (1986: 29) stated three factors that have accounted for the low status of TVET in PICs. These include the: 1) influence of values inherited from the colonial education system; 2) high status attributed by the community to white-collar employment; 3) different quality of the instruction provided by some institutions. This scenario is reflected in the education systems of many other Pacific countries (Thaman 1993; Afamasaga 2001; UNESCO, 2015). According to (Watson 1994) and (Thaman 1995), this negative attitude

towards vocational education is derived from the idea that formal education promises better employment opportunities.

Examination Oriented Curriculum

The current system of education in Samoa has been described as examination-oriented and irrelevant to local life (Government of Western Samoa 1995a). For years Samoa followed a dual-system structure of education, which separated Junior Secondary Schools (JSS) and Senior Secondary Schools (SSS). The former followed a vocational oriented curriculum, which was generally regarded inferior to SSS. Students who received poorer grades in the Year 8 examination were enrolled in the JSS while those who obtained high marks were enrolled in the SSS. This perception has gradually changed with the education system being mainstreamed and the JSS eliminated.

The Western Samoa Education Strategies 1995-2005 found the dual-system structure “inequitable and inefficient” (Government of Western Samoa 1995a: 12). The curriculum in both the JSS and SSS streams lacked relevance to village life and labor market needs. The dual-stream has been merged into a five-year single stream with the same curriculum and assessment requirements which apply to all government, mission and private schools.

There are three government certificate examinations and one regional. The first is at the end of Primary education and was sat by Year 8 students and were phased out in 2012. The second was at the end of Year 11. The SSC is the third which was taken at the end of Year 12. The PSSC is a regional examination and this was conducted at the end of Year 13. These examinations were considered crucial for students’ academic future as it determined the next level of their education. The curriculum has been revised several times; however, it is still NZ-based and examination-oriented and, thus, serves only a small number of Samoan students (Government of Western Samoa 1995a). It is this reason that (Petana-loka 1995:14) commented that schooling in Samoa is a ‘blueprint’ of New Zealand schooling.

The Government of Samoa (GOS) through its Ministry of Education, Sports and Culture (MESC) has worked with overseas donors to upgrade school facilities, improve teacher education, school management, and provide resources for urban and rural areas (Afamasaga 2001). Although a lot has been done to improve the quality and relevance of Samoa education, the problem of unemployment and related social problems, such as school dropouts, burglary and drug taking still persist (GOS 2001). A survey by the GOS Statistics Department in 1994 found that 14,541 of the age group 10 to 34 that resided in the Apia urban area, of which 3,607 or 25 per cent were neither in full time employment nor engaged in full time education. The survey concluded that unemployment existed in both urban and rural areas (GOS 2001). Likewise, a survey by UNDP showed a growing number of youth unemployment, a decline in the school enrolments and a high dropout rate of 16 per cent (GOS 2000b). GOS MESC Education Statistical Digest (2003c: 11) showed similar results for recent years. This is shown in Table 1.2.

The Education Strategies Report clearly stated that the education system in Samoa is examination-oriented and it de-selected students so that only a few reach secondary level (Government of Western Samoa 1995a). The low number of students entering secondary education meant that most school leavers would not have had the basic education to prepare them to undertake further education and training, and perform in the workforce or fit back into the rural and mixed subsistence sector.

School enrolment from 1990-2000 showed the majority of the students who enrolled in Grade 9 dropped out before reaching Year 13. In essence these students returned to the village ill prepared to utilize the resources available owing to the lack of vocational skills taught at the secondary level (Source: GOS, MESC Education Statistical Digest 2003: 13). Furthermore, a report by UNESCO showed that the average number of students who passed the University Entrance examinations and move to universities was about one per cent of the total school age population. Another four per cent were selected to attend local institutions. The remaining students did not find employment and return to the village, disappointed, disoriented and ill prepared both in attitudes and skills (Government of Western Samoa 1984; Lee-Hang 2002).

The DOE Statistical Report (Government of Western Samoa 1995b) made it clear that the performance of students in the National and Regional examinations was very important because it determined who would go to universities and who would enter the workforce. In reality, the majority of students would have to look for work in private or public sectors. However, owing to the shortage of employment opportunities in urban areas and lack of employability skills many return to the villages. They are unable to generate self-employment in rural areas because they are not sufficiently prepared for it (Lee-Hang 2002). Thus, a more vocational-oriented school curriculum seemed appropriate. The government proposed a five-year social economic plan in the early 1970. It challenged the validity of the existing school system. It claimed that the curriculum was unsuitable to the national development needs and to the realistic ambitions that could be attained by Samoan youths (Thomas 1985; Harrison 1973).

Consequently, certain measures have been initiated to help foster changes in order to provide more quality and relevant education so that the students obtain employability skills both in urban and rural settings. In order to accommodate the changes, the GOS introduced its first statement of economic strategy (SES) entitled "A Partnership". The document incorporated the MESC policies and strategies for the period 1995-2005. These policies were designed to build an education system was characterized by 'equity', 'quality', 'relevancy' and 'efficiency' (Government of Western Samoa 1995a). The policies aimed at improving special education, teacher education, school facilities, curriculum materials and school management. Additionally, it emphasized the significance of effective vocational and technical training in the secondary and post-secondary levels of education. This project examined the management, implementation and sustainability of TVET courses in the secondary school curriculum in Samoa.

My Interest

My interest in vocational education began when I was a secondary school teacher at a well-established, prominent high school in Samoa. This school is noted for high external examination achievement because of the school structure, qualified teachers. Its environment and resources were conducive to student learning. The school enrolled students from the elite society and competition for high external examination results were high among students. The school's goals were consistent with Samoa's examination-driven curriculum. This system of education seemed to serve the academically-bright students who generally came from good families. The majority of the 'slow' learners either dropped out of school altogether, or enrolled in vocational subjects.

The major concern was that TVET continued to be relegated as an unimportant area of learning. Despite numerous educational reforms to upgrade the standard of TVET, not much improvement had been noticed in the provision of education to adequately prepare school graduates for the world of work in the Samoan context. Often the questions asked are: 1) what are the reasons for this? Are TVET programmes not implemented well? Or is the education system in Samoa directed by wider social, economic and political factors? No doubt the above-mentioned problem is a product of the current education system itself.

The TVET courses at the secondary school level in Samoa need more attention (Sharma 2000; Aveau 2003; Fiji 2000). It has been a component of the secondary school curriculum for many years but its effectiveness in contributing towards a more quality education has not been realized fully (Aveau 2003). To-date there has not been much research on sustainable management and implementation processes. It is towards this end that stakeholders including the MESC, schools and communities with useful knowledge and insights could contribute to the following:

1. Sustainable management and implementation of vocational education and training at the secondary school level in Samoa;
2. Appropriate section of the TVET teaching and learning, assessment and evaluation approaches currently used in Samoan secondary schools, and the ways in which it can be effectively implemented;
3. Samoa with its agricultural and tourist industry needed to offer relevant curriculum to prepare graduate for employment in these fields.
4. Various stakeholders views in regards to TVET courses at the secondary school level.
5. Policies and practices of sustainable TVET management at the secondary school level and how these may be improved to provide quality education; and new knowledge that could complement the Samoan perspectives.

The Samoan Context

Social

Samoans have tended to retain their traditional ways despite exposure to European influences for more than 150 years. Most Samoans live within the traditional social system based on the 'aiga', or extended family group, headed by a 'matai' or a chief. The title of chief is conferred to any eligible member of the group, including women. In addition to representing the family in village and district councils ('fono'), the chief is responsible for the general welfare of the family including the use of family lands and other assets (Meleisea 1992).

The Samoans recognized the value of learning and teaching which they believe enhances family, village and the community. In the village, there are councils or committees such as chiefs and untitled men ('Matai' and 'aumaga'), women's council ('komiti a tina'), and the Sunday school organisation ('Aoga Aso Sa').

These organizations teach men, women and children skills in crafting, hunting, carving, pottery, fishing, cooking, weaving, gardening and health issues. (Malo 1984: 19) illustrated this type of learning and teaching as:

1. realistic and based on life skills and experiences;
2. preparing individuals for their roles in the family, church, and the community;
3. depending considerably on stories and traditions as strategies for helping children to learn about their society; and
4. aiming to preserve the culture and language of Samoa.

Similar to other PICs, Samoan culture, knowledge, skills, customs and vocations are transmitted through observations and in daily village activities (Fanaafi 1957; Thomas 1985; Meleisea 1987b). A great deal of this informal learning continues in the villages today where the 'faa'-Samoa (Samoan way of living) is strong.

Apparently, a great deal of informal training in life skills is done in rural areas. Therefore, life skills such as crafting, carving, gardening, landscaping, flower arrangements, food preservation and canning could be introduced in the schools. Introducing and teaching these skills and techniques could assist the rural community in setting up self-owned and self-managed enterprises to earn their livelihood.

Although Samoa has been changing from traditional way of living to more western lifestyles, the people of the island still have a lot of respect for their culture, traditions and language. It is their unique identity amongst other Polynesian and Pacific Islanders. Including Samoan culture and tradition in the school curriculum has strengthened the younger generation in upholding and maintaining their status and identity. The Samoan language is the dominant language, but English is widely used in education, commercial and government sectors (Mata'afa 2004).

Economic

The Samoan economy is among the fastest growing in the Pacific Island economies, although growth is heavily dependent on a few industries such as tourism and fisheries (GOS 2002c). Samoa's economy is dominated by subsistence village agriculture, which absorbs two thirds of the country's labour force. The main food crops are coconuts, breadfruit, bananas, cocoa and taro. Some progress has been made with measures to diversify the agricultural base and the fisheries sector has shown major growth in the last 5 years and is now the country's biggest commodity export earner (GOS, 2002).

Tourism developed in the 1990s as Samoa's top foreign exchange earner. According to the Human Development Report, the total revenues for tourism in 2004 accounted for 15 per cent of GDP (GOS 2005). The major tourist markets for Samoa are New Zealand (25 per cent) and American Samoa (35 per cent). Many of these visitors are expatriate Samoans returning to visit friends and family, but the number of holidaymakers is increasing (GOS 2002).

Remittances and development aids also play an important role in shaping the Samoan economy. Assurances from aid donors goes into the developments and upgrading of schools, hospitals, roads and government buildings.

The largest foreign owned Multinational Corporation was once Yasaki Samoa which was closed in 2012, a Japanese-owned company processing automotive wires for exports to overseas countries under a concessional market arrangement with the Samoan Government. The Yazaki Samoa Limited employed about 2,000 Samoans, ranging from degree holders to the early school leavers (GOS 2001). There are also other industries such as the breweries, the cigarette company and timber factories that provided employment for the Samoan people.

Samoa's main exports are nonu juice, kava, coconut, taro, banana, coconut oil and beer. New Zealand is Samoa's principal trading partner, providing between 35-40 per cent of the imports and purchasing 45-50 per cent of the exports. Australia, United States of America, American Samoa, Fiji, Japan and China are also other important trading partners (GOS 2002).

Since agriculture remains the bulk of Samoa's economy, the application of new forms of agricultural technology has opened up new opportunities in rural areas. Such a process has implications for TVET programmes in farm management and crops and animals productions. TVET programmes should focus on these areas to equip the majority of students who would be unable to proceed to higher education with the necessary skills to utilize the natural resources that Samoa has in abundance.

Fishing is another important industry. Recently, new methods of fishing and fish conservation have been introduced and are taught in the rural and urban communities by the Fisheries Department. Such courses can also be introduced at the secondary school level. Samoa has attracted a lot of tourists from different countries in the past years. Therefore, courses in tourism and hospitality should be emphasized in both formal and non-formal educational

institutions. TVET has a lot to offer to improve the economy of Samoa in the areas of agriculture, fishing and tourism.

Education

Traditional Education

Vocational education and training began long before the arrival of the first European missionaries; however, it was informal and not institutionalized. Although Margaret Mead's (1943: 634) study of Samoan societies is controversial, she indicated that formal schooling did not exist but definitely there were teaching and learning. She further stated, "Parents taught the children to master their environment, to swim, to climb, to handle fire, to paddle canoe, to judge distance and to calculate the strength of materials". (Petana-loka 1995:14) also referred to 'traditional knowledge 'that was passed through generation by 'word of mouth' and through engaging in cultural activities.

The Samoans had for generations taught pragmatic skills in which women and young girls participated in activities such as craft making, weaving, tapa making, pottery, cooking, decorating and tending little children. The young men also learn to fish, hunt, cook, carve and draw by working with their parents or other village adults.

Through these activities, the girls and boys learned about the Samoan culture, knowledge, skills, attitudes and values (Fanaafi 1957; Meleisea 1987b). (Derrick 1957: 21) mentioned these skills were transferred from one generation to another within the family or social group in an "informal way" and was "regulated by custom". Likewise, Fanaafi (1957: 166) also alluded to training that "was intricately bound together with the native ceremonial life-style and had not a common home or schedule". (Taufe'ulungaki 2002: 5) stated that "although it was informal, practical, inter-active and life long, it was considered worthwhile learning". This is the type of education Samoa had in the past. This system of education was "tradition", "the faa-Samoa" or "the Samoan way of life". Malo (1984: 19) articulated these educational groups as: (1) the family; (2) the extended family; and (3) the village or the community.

Mission Schools

The Missionaries introduced a new method of learning and teaching through "reading and writing" (GOS 1997). Basic literacy and numeracy skills as well as History and Geography were conducted in the vernacular in most schools (Keesing 1934). In addition, skills such as carpentry, farming, cooking, crafting and sewing were taught (Derrick 1952; Meleisea 1987a; Kurian 1988). According to (Turner 1962) the missionaries followed the "European model" of education (cited in Cox 1984). The missionaries prospered and before the 1900 almost every village in Samoa had an 'Aoga Faifeau', school managed by the missionaries.

It is important to note that the missionaries emphasized the significance of teaching practical and life skills manifested through schools established from 1800-1900. The London Missionary

Society (LMS) established a school at Leulumoega Tuai where practical skills in carpentry and agriculture were taught. Furthermore, a girls' school at Papauta was established in 1891 to train girls in their roles as mothers and homemakers. They also received secular education in Mathematics, English, Reading, Social Science and Christian Education (Malo, 1984).

Similarly, the Methodist established a Girls' school known as Avoka in 1914. This school became the main centre for training women to become wives of ministers. Courses such as cooking, sewing, decorating, house management and childcare were taught at the Avoka Girls School. In 1922, a school was established at Faleula to teach skills in carpentry, engineering and agriculture.

A Boys' school was also established in Satupaitea, in the island of Savaii for the same purpose (Allardice 1984; 1989). The Latter-Day Saints (LDS) followed in 1916, and developed a secondary school in 1954 with a diversified curriculum that continues to exist today (Cox 1984). Courses in agriculture, woodwork, mechanic, home economics, secretarial studies, and art were taught with the main purpose to train students for the 'world of work'. In addition, academic courses such as English, Mathematics, Science, Social Science and Samoan Language were also part of the curriculum (Cox 1984).

The desire of the Samoan people for material things, goods and "money for church contributions" opened the way for the traders, explorers and colonists, who also played an important role in Samoa's education (Keesing 1934: 401). During the German regime, little development was made in education because they were more interested in their trading operation (Derrick 1952). During their rule, the missionaries continued to run the school affairs (Petana-loka 1995). According to Keesing (1934), the German administration paid little attention to the teaching of practical skills. They built the first government school at Malifa to educate children of the expatriates, the Germans, Americans, English and mixed-blooded Samoans for government services. The German Language was taught at Malifa School and selected Mission schools

Government Schools

When New Zealand (NZ) came into power, there was no coordination among the mission schools. Therefore, the first thing they did was to set up a national school system so that all schools (both Missions and Government) in Samoa could be regularized and rationalized. New Zealand also took over most of the schools operated by the missionaries and transformed them into village public schools. Furthermore, they implemented a new system for secondary schools with a school curriculum based on the New Zealand model of education where students were required to sit examinations such as the New Zealand School Certificate and the University Entrance examinations (Mai'ai 1957). English was also made as the language of instruction in all the public schools. In 1922, the New Zealand administration built a government school at Vaipouli, Savaii. In addition, they relocated the Malifa School to Vailima and in 1924 it became an agricultural school. This school exists today, but it is no longer an agriculture school (Keesing 1934). A Teachers' Training College was also established in 1939 to provide training for Samoan

teachers. This was later named as the Western Samoa Teachers' Training College (WSTC), which was instrumental in organizing Home Economics and Industrial Arts in the schools in the early 1980s. The WSTC is now the NUS Faculty of Education and continues to provide education for Samoan teachers. Another government school was established at Vaivase in 1953. Samoa College is highly regarded as one of the best schools on the island. Years later a Technical Training Institute, Marine Training Centre and a Primary Teachers' College were established. Before independence, the secondary education was based on the New Zealand model with imported curricula and teachers. Students sat the School Certificate and University Entrance examinations to qualify for overseas universities and to hold government jobs (Keesing 1934; National Institute for Educational Research, 1986). This system of education attracted many policy makers, educators, administrators, parents and students because of its good reputation.

This meant that young people considered the prospect of working on the land or at sea unattractive and of low status and the notion reflected the changing attitudes of the time. In part this has accounted for the limited number of students enrolled in TVET courses in secondary schools. Young Samoans today have embraced western ideas and styles which sometimes contradict Samoan culture and values. Nowadays most Samoan school leavers prefer office jobs with high salaries rather than being a farmer, home maker or a carpenter.

The majority of parents' push their children to study English and other academic subjects and not vocational and technical subjects. This mentality has contributed to the low status received by TVET education in Samoa (Aveau 2003).

Formal Education System

Rural JSSs generally have poor facilities, and do not attract the best teachers. As a result, they normally cater for students who are 'pushed out' of the formal system because of low grades in internal and external examinations (GOS 1995c). According to the Education Policies 1995-2005, 50 per cent of students who enter Year 9 at JSSs do not complete Year 11 and only 10 per cent of them are able to access government senior secondary schools (Government of Western Samoa 1995a). In addition, a survey by the Ministry of Youth indicated that the majority of the unemployed youths in Samoa are from the rural JSSs (GOS 2000b). The majority of Year 8 students end up in rural JSSs. This has implications for TVET courses in the primary schools. According to some TVET officials, TVET courses could be offered to Years 7 and 8 students in preparation for the TVET program in the junior and senior secondary schools (Ahoy-Wright, 2003: 16).

Secondary Education

Secondary education is for five years from Years 9 to 13. It is divided into three years of JSS program from Years 9 to 11 and two years of SSS program, Years 12 and 13. The core and examinable subjects in the Year 11 national examination are Samoan, English, Mathematics, Science and Social Science while Agricultural Science, Business Studies, Home Economics and Industrial Arts are optional subjects. Art and Craft, Music and Physical Education are non-

examinable. By contrast, the SSS curriculum offers Samoan Language and Culture, English, Accounting, Biology, Chemistry, Economics, Geography, History, Physics and General Science. All subjects are examinable in the Year 12 Samoa School Certificate (SSC) and the Year 13 Pacific Senior Secondary Certificate (PSSC) examinations. The Samoan Language and Culture is non-examinable in the PSSC (Government of Western Samoa 1995a). Progress through the secondary system depended on three examinations: the Year 11 National; Year 12 SSC; and Year 13 PSSC now localised and is currently the Samoa Senior Secondary Certificate. In 2002, the government upgraded two JSSs to SSSs, Vaimauga and Siumu districts (Ahoy-Wright, 2004: 22). A common problem in government and mission SSSs is over crowding due to the limited space and amenities (GOS 2003b).

For years, the Samoan education system had followed the dual-stream structure of education. The dual-stream structure separated the junior and the senior secondary schools with different curricula. For example, the JSSs offered five core subjects, Mathematics, English, Samoan Language, General Science and Social Studies and optional courses (Business Studies (BS), Physical Education (PE), Food and Textile Technology (FTT), Agriculture Science (AS) and Design and Technology (DT). By contrast, the SSS curriculum included English, Mathematics, Samoan Language, Biology, Geography, History, Computers, Economics and Accounting. Three of the SSSs (Samoa, Avele and Vaipouli Colleges) do not offer TVET subjects.

In the past, streaming using Year 8 examination results relegated students with lower grades to JSSs and those with higher grades were enrolled in SSSs. This dual-system was found to be inequitable and inefficient. Furthermore, it was widely considered to lack “relevance to village life and labor market needs” (Government of Western Samoa 1995b: 16). Furthermore, the Year 11 national examination was seen as the gateway to Year 12 in any of the mission or the government SSSs. Usually the government SSSs had better students and better-qualified teachers. By contrast, the below average students were pushed into district junior secondary schools with poor facilities, less qualified teachers, limited resources and poor infrastructure (GOS 2000c; Government of Western Samoa 1995b).

The government acknowledged the inequitable and inefficient dual-stream structure of education. Therefore efforts were made to remedy the problem and streamlined the education system. In doing so, the dual-stream structure was merged into a five-year single stream. This new single stream system of education has been implemented in the government JSSs. This includes the upgrading of all government JSSs to include Years 12 and 13, and improving their facilities, teacher training and teaching materials. Moreover, the curriculum and assessment requirements in the new single stream applied to all secondary school students in both government and mission schools and students in both rural and urban areas take the same courses and participate in the SSC and the PSSC examinations regardless of their academic standing (GOS 2000c).

The Year 11 national examination was used as a selection criterion for Year 12. In 2003, the improvement of some JSSs to include Years 12 and 13 made the Year 11 national examination

redundant. The goal of the new single stream provided for equity, quality, efficiency and relevancy in education. The mission and private secondary schools have since operated in a single stream (Government of Western Samoa 1995b; GOS 2000c).

Tertiary Education

The SSC and the PSSC examinations qualified Year 13 students for tertiary education. The National University of Samoa (NUS), Samoa Poly-technical Institute (SPI) before amalgamation with NUS and the University of the South Pacific (USP) at Alafua provided tertiary qualifications for Samoan students.

The NUS offered certificates, diplomas, and bachelors' degrees in the fields of Arts, Commerce, Education, Science, Mathematics, Nursing and Computing, Technical and vocational education, and Maritime training (Aveau, 2003; NUS Calendar, 2021). In addition, NUS provides seventh-form education, under the Foundation Certificate Program. To be eligible for the Foundation, students must pass English and three other subjects in the PSSC examination. The GOS, MESC Education Statistical Digest (2003c) indicated that in 2001, 34 per cent of Year 13 students who sat PSSC made it to Foundation. Therefore, only one-third of students qualified for further academic education. Project data indicated 52 per cent of the students enrolled in the SPI for training in technical and vocational skills and some took up employment in the public or private sectors. The remaining 14 per cent added to the rising number of unemployed youths in Samoa.

These students "return to the village disenchanted with the education system and forced to work in the plantation, or remain disillusioned in the urban area and join the ranks of dissatisfied and unemployed sector of society" (Lee-Hang 2003: 22). In 2016, 29% of Year 13 students were dropped out of school and it is assumed that they enroll in TVET institutions, or migrate overseas through the Quota scheme become unemployed (MESC Education Statistical Digest, 2016).

Another institution that offered tertiary education is the University of the South Pacific (USP). The USP has its Agricultural Program based in Samoa at the Alafua Campus. The Campus offers diplomas and degrees courses in Agricultural Science. This set-up has taken advantage of Samoa's natural resources and arable land for agricultural activities, which greatly benefit Samoan students because of its accessibility and therefore economical and cost saving to many families. The university also offered diplomas and degrees in other areas including Business Management, Education, Accounting and Computing. Post-graduate and Master courses are offered through the USP's Distance and Flexible Learning (DFL) program. APTC also offered such courses in the certificate and diploma levels. In addition, APTC work closely with TVET schools in the Island of Savaii in providing the necessary services for TVET students.

In the later 2000 there had been an external push for TVET which was reflected in the funding allocated for technical training. Additionally, the establishment of the Samoa Qualifications Authority (SQA) in 2006 added impetus to this change and influencing the mindset of students,

teachers, community and policy makers. Previously, students were channeled towards academic pursuits in the more traditional subjects undermining the technical vocational areas which were deemed more relevant and appropriate for Samoan students to pursue. With the momentum in TVET opportunities for students to be trained in specific careers to contribute towards the country's economic development there was a gradual change in the number of students that enrolled in the TVET programmes. Currently the total number of students that have enrolled in the FOTE has increased. This marked increase in enrolments number attested to the community perceptions that TVET programmes are viable and sustainable for Samoa's economic growth.

TVET and Sustainable Development

The key to a sustainable future is to integrate and align technical and vocational education and training with societal needs and local employment. Education and skills development are essential for preparing young Samoans with the capabilities to secure jobs, drive entrepreneurship, innovation, and economic growth which contribute to the development of the country as a whole. TVET in Samoa has come a long way in ensuring its stability. Although, there is a growing population interest in TVET and a flood of funding is allocated to strengthen and improve TVET at all levels of education, implementation and institutionalization is yet to be fully realized. Therefore, stakeholders in policy making, research, teacher training, resource utilization and curriculum alignment have to work in partnership to ensure the effective application of TVET for sustainable development.

Conclusion

Although schools in most PICs have improved, and more Islanders have access to educational opportunities, problems such as unemployment, dropouts, suicide, the lack of resources, untrained teachers, poor management, poor facilities and inadequate funding are common throughout PICs (Teaero 2002; Thaman 2002; Taufeulungaki 2002; Vanerere 2003). This has implications for the current system of education in Samoa and the Pacific Island countries, which needs to adequately address the problems that PICs face in terms of unemployment and the high level of school dropouts who are left with no vocational skills and knowledge to enable them to enter wage employment or generate self-employment. Long term sustainable development should target TVET areas as these could provide the backbone for the nation's development in terms of its tourism, agriculture, carpentry, plumbing, electrical and mechanic to name a few.

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The Use of Information and Communication Technology (ICT) as an Educational Tool to Improve Learning and Teaching Skills

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Abstract

In Samoa, the Ministry of Education, Sports and Culture's newly implemented outcomes – based curriculum, has posed the need for teachers to incorporate Information and Communication Technology (ICT) in teaching, to help facilitate and encourage more interactive learning thus supporting the child – centred curriculum. Therefore, this research paper examined the way teachers perceived Information and Communication Technology (ICT) as an educational tool to improve teaching and learning, particularly in Secondary schools. This was a Qualitative research and data was gathered using interviews. The findings indicated how teachers perceived ICT. Despite teachers' theoretical understanding of ICT, extensive knowledge on its appropriate integration was basic. It is concluded that ICT is vital for all teachers, students, and parents to use for effective teaching and learning. In addition, MESC should provide more professional development for teachers to familiarize and comprehend the utilization of ICT and its value in all educational areas.

Keywords: Information Communication Technology (ICT), Education

Introduction

Teaching is becoming one of the most challenging professions due to the expansion of knowledge. In Samoa, this coupled with the growing need for teachers to stay updated globally has implications for teaching and learning. The use of Information and Communication Technology (ICT) to improve teachers' pedagogical practices also has an effect on student participation and active learning is emphasized. Information and Communication Technology (ICT) has expanded learning opportunities, provided innovation and advanced Samoa's Education Sector with its positives outweighing the negatives.

In Samoa, efforts by teachers to use ICT in teaching had gradually progressed. Several teachers are using some form of ICT to improve their teaching methods. Nevertheless, divided opinions regarding the use of ICT in classrooms was evident with most teachers continuing to teach without utilizing ICT to be more effective. With the Education System enforcing the incorporation of ICT in teaching and learning, there was an urgent need to obtain teachers' views on ICT and which made examining teachers' perceptions towards the use of ICT imperative.

Numerous literatures are discussed in the study regarding ICT use and application in other countries. However, research conducted in the Pacific Region including Samoa is minimal. This is perhaps the main reason why ICT seemed alien to most teachers. Therefore, the study attempted to garner vital information as to where Samoan teachers' attitudes and application of ICT stood. An emphasis on finding links between the available literatures with regards to Samoan teachers' perceptions was sought. This paper highlighted Samoan teachers' concerns about the inclusion of ICT in classrooms particularly on barriers and what could be done to combat these issues.

Context

ICT is a modern educational approach Samoa has adopted in its education system to ensure that all levels acquired effective teaching. The MESC Education Sector Plan employed ICT as another educational platform “to make education and training more inclusive” (Education Sector Plan (ESP) 2019: 33). It was the ESP goal and strategy to make ICT available for students and teachers in order for information to be readily available and teaching and learning to be accessible to all. ICT in Samoa has been long overdue, due to the education system’s inability to push for its incorporation compounded by teachers’ reluctance and students lacking access to use. However, MESC, teachers and students in Samoa alternative when covid-19 became a global pandemic was to resort to ICT. In order to ensure that education continued during the lock down period the education system, teachers and students had to engage in ICT. In 2020, the Samoa observer reported an educational initiative in partnership with Vodafone Samoa, United Nations Educational, Scientific and Cultural Organization (UNESCO) and MESC to provide financial support in an attempt to encourage ICT use for educational communication of MESC, students and parents. According to Fruean (Samoa Observer, 2020: 1), “this initiative is to help minimise educational disruptions and maintain social contact with learners and their parents”. ICT is currently MESC’s top priority and teachers together with students are encouraged to utilise ICT for communication as well as teaching and learning. ICT forms are moodle, open distance learning, zoom, virtual meetings, power point presentation, google, face book, etc, and all are relevant for teaching and learning where teachers and students could utilize the various forms for effective teaching and learning.

A number of studies (Almekhlafi & Almeqdadi, 2010; Chai et al, 2010; Ertmer & Ottenbreit-Leftwich, 2010; Hutchison & Reinking, 2011; UNESCO, 2014) have been conducted with regards to obtaining teachers’ views on the use of ICT for improvement of teaching methods as well as its integration for student learning. The studies ranged from the common general views of teachers to more specific opinions that pertained to the participants of the researchers’ respective study location. However, these studies were limited to that of the researchers’ particular location and region, not the whole. Therefore, this research explored the perceptions of Samoan teachers on Information and Communication Technology while linkages to the mentioned studies were made.

Literature Review

We are now living in an ever evolving age and the introduction of various forms of technology has distinctively changed the way we live. Globally, many economic developments were made possible, owing to the ever advancing technology. One specific sector worldwide that is impacted by this change is the Education System. With the introduction, implementation and availability of technology within schools, it is no secret that ICT is changing the way education works. Despite its popularity, there are varied views concerning its usage in schools. It is therefore vital to have a clear understanding of what ICT is, observe perceptions towards its usage as an educational tool, identify ICT barriers and offer possible solutions to combat such obstacles. ICT has been defined as,

“Forms of technology that are used to transmit, store, create, share or exchange information. Such technologies include radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software, as

well as services associated with these technologies such as video referencing and electronic mail”

(UNESCO, 2006, cited in Ogunji, 2013: 1).

In addition, ICT is “an electronic means of capturing, processing and disseminating information” (Paudel, 2015: 10). Moreover, it acts as a “key tool in acquiring knowledge” (Adedoyin et al, 2008, cited in Ogunji, 2013: p.1). Various forms of ICT are globally widespread that they have provided easier and faster means of getting information while knowledge is made indispensably accessible.

This is reflected in many developed countries where ICT usage in schools is in full force. For instance ‘many European and Asian countries have stressed the need for ICT to be integrated into their schools. Therefore, it is compulsory to use ICT in teaching’ (Paudel, 2015: p. 13). Emphasis has been given on developing skills in using ICT as it will be an “indispensable prerequisite” for learners and teachers alike (Shan, 2013: 112). Furthermore, this ‘integration of technology in the classroom has become an important feature of successful teaching’ (Almekhlafi & Almeqdadi, 2010: 165). As such ICT usage in this context needs to be meaningful. It has to go beyond traditional methods and focus on encouraging more advanced techniques that would make teaching and learning worthwhile. “Technology can make it quicker and easier to teach the same things in routine ways, but it also adopts new and arguably better approaches to instruction, and/or change the content or context of learning, instruction and assessment” (Lawless & Pellegrino, 2007: 581).

ICT in ‘many industrialized countries have benefitted from the freedom of ICT, but most developing countries, particularly Africa remain on the underprivileged side’ (Ogunji, 2013: 1). Despite this, a study conducted by Ogunji (2015) in Nigeria showed that although ICT was introduced to the country recently, it has progressed well and new developments are happening daily, not just in the country but the African continent as a whole. The Nigerian Ministry of Education have proven instrumental in ‘creating ICT reforms and departments, working together with stakeholders to initiate programmes that covers all levels of the educational sector’ (Ogunji, 2013: 2). In the context of Nepal, Bhatta (2008, cited in Paudel, 2015: 6) explained that the integration of an ‘ICT based teaching and learning approach has been used to address the problem of poor quality of education’. This is because the “use of ICT makes the teaching process more efficient and strengthens knowledge” (Paudel, 2015: 12). In other words, through ICT the teaching profession is strengthened and the quality of education improved.

The global education system has drastically changed with the inclusion of ICT in teachers’ pedagogical practices and student learning. According to UNESCO (2007), “ICT promotes the quality of education” (p. 6). This has contributed greatly to Samoa’s education system today. ICT not only boosted quality education in Samoa but it also assisted education in remote areas via Open Distance Learning (ODL) (Suaalii et al, 2016). Chan Mow (2017), indicated that MESC aimed for “improvement of ICT services for MESC and all schools” (p. 1) to ensure that all individuals would be able to receive quality education in Samoa. In addition, Paudel (2015) explained that quality education is achieved by using ICT to ‘change the way of teaching, and support more students’ (p. 6) who are keen to improve their education.

Although ICT is considered a vital resource in education and the nation’s development, but individuals are also impacted with problems such as understanding of utilisation and poor physical

resources. Currently, it is gradually working effectively in developing nations like Samoa with the assistance of the Commonwealth of Learning (COL). In support COL has offered workshops all throughout the Pacific to ensure that education, and all areas of development could be done with the utilisation of information communication technologies (Hope et al, 2008). The purpose of these COL-ICT workshops was to “immerse professional educators in the practical use of ICT in education, develop course materials and learn how to continue to collaborate online using the technologies” (Hope et al, 2008: 5).

In Samoa, ICT has implications for all areas of government depending on the nature of the specific sector. Whilst other sectors have thrived with the inclusion of ICT, the Education Sector to be specific is gradually progressing. According to an Annual Report by MESC (2017), ‘Information and Communication Technology is categorised as one of five relevant programmes that aims at achieving the Sector Plan Goal 1 of “enhanced quality of education at all levels” (p. 8). This showed the need for ICT to be prioritised for the realization of Sector Plan Goals. However this specific goal is yet to be recognized due to the slow progress in the actual implementation of ICT within schools.

It is evident that most schools in Samoa have access to various forms of ICT but its proper utilization is not observed. Furthermore, the current operation and usage of ICT by both teachers and students is merely scratching the surface. This showed that knowledge of ICT usage was basic and still very much traditional. For example, ICT modes were commonly used for research, printing, photocopying, lecture notes and overhead presentations. These traditional views of ICT usage were also reflected in several studies (Palak & Walls, 2009 and Shan, 2013), where the use of ICT was seen as a way to improve and support traditional or existing teaching methods. Moreover results from a study conducted by Yildirim (2007, cited in Shan, 2013), revealed that ICT was ‘frequently used by teachers for the preparation of handouts and tests only’ (p. 116). A more meaningful use of ICT is recommended by several researchers (Jonassen et al, 2003 and Chai et al, 2010: 64), where “teachers are required to integrate technological affordances with pedagogical approaches for the specific subject matter to be taught”. Once ICT is integrated into teacher practices, a change in view will be inevitable, utilization will be improved thus encouraging student centred learning.

However, integration of ICT into teacher practices was a barrier that inhibited teachers in Samoa from applying and integrating ICT in teaching. Teachers’ insufficient knowledge on ICT played a significant role on their perceptions thus resulting in difficulties in classroom implementation. Moreover, Samoa’s school culture is deeply entrenched in respect for veteran teachers that novice teachers are given very limited leeway for changes in ICT perspectives. In other words, because most veteran teachers have little or no experience in ICT, the newly trained teachers with ICT skills were further inhibited to make changes. As such the school culture needed to be positive and perceptions of teachers to change.

The advancement of ICT and the need to incorporate ICT in schools was part of the MESC’s Sector Plan to accomplish quality education as vital to Samoa’s education system (MESC, 2016). It became a prerequisite for teachers to be equipped with ICT knowledge. Teachers’ perceptions towards ICT needed to be revolutionized for quality learning of all students to be successful. Ertmer & Ottenbreit-Leftwich (2010), stated that “teachers’ mindsets must change to include the idea that teaching is not effective without the appropriate use of ICT resources to facilitate student learning” (p. 255). Simply put, traditional methods can no longer cater for the educational needs nowadays

due to global transformation. The integration of ICT resources in teaching would aid learning thus achieving quality education. In fact, “Today’s students live in a global knowledge – based age and they deserve teachers whose practice embraces the best that technology can bring to learning” (Paudel, 2015: 5).

Research Approach

Qualitative Research is an ‘in-depth investigation of research participants’ experiences, finding the significance in these experiences and generating meaning for them’ (Mason, 2002). For this purpose, this research was conducted qualitatively. The pivotal areas of this research required a thorough investigation of teachers’ perspectives as well as the reality of numeracy in the primary classroom. Therefore, a qualitative research methodology was employed. Data for this research was collected using semi structured interviews with participants. A qualitative interview involves one-to-one interactions or focus groups exchanges, with probing opportunities encouraged (Mason, 2002). The interviews were done face to face individually. The interview method was relevant for this research and subsequently used as the main process for gathering data. It also contributed well to the readily available literature of the study topic. A Thematic Analysis of the interviews was done once the data was collected. This method “aims to find common patterns across a data set” (Rucker, 2016: 4). This urged the researcher for in depth analysis in comparing and contrasting the data. A step by step process was followed to ensure accurate analysis and relevant information for the study area was observed. This was highlighted by research methodology (2019: p. 8) where thematic analysis referred to ‘the process of grouping verbal data into categories’. Rucker (2016: p. 10), states six important steps to consider when conducting this process as ‘familiarisation, assigning codes, theme and pattern searching, theme reviewing, defining and naming themes and report writing’. Once data was collected, the researcher read and re-read the information to familiarise with the data. From there, the first informal analysis was done using random codes to sort the data. When this was done, themes were used to reorganize the coded data into more meaningful groups. These themes were reviewed and re-evaluated based on their relevance to the data before naming them. Once the themes were finalised, they were used to critically analyse the data and the formal process of report writing took place.

A sample size of four teacher participants was requested and approved for the research. The teachers interviewed were from two different Secondary Schools in the town area. The targeted college teachers for this research were those from the urban area. Procedures regarding the participation of the selected sample were followed and adhered to.

Discussion of Findings

The Thematic Analysis Approach was adopted for analysis. Themes derived from the data collected during interviews were discussed at length. Participants’ views were presented and used to substantiate each theme and were compared and contrasted to analysis made in the literature as well. Overall, the perceptions of participants from the interviews provided an overview of what this study aimed to discover.

There were three themes that emerged from the data. The first theme focused on the different forms of ICT that participants used. In the second theme the focus was on causal barriers that

hindered participants from proper usage of ICT in teaching. The third theme outlined some achievable solutions to these barriers as identified by the participants. Lastly, the summary provided a synopsis of the themes and subthemes discussed, according to the participants' views.

Main forms of Information and Communication Technology versus Uses

The participants for this study provided detailed explanations of ICT and its various forms, indicating their knowledge of ICT. With regards to the forms they were currently utilizing in teaching and for what specific purpose commonalities were evident. For example, all participants revealed computers and projectors were the main forms of ICT used where PowerPoint presentations and exam preparation were used. On another note, Teacher 3 identified a more advanced form of technology used, in addition to the common forms mentioned:

Yes, I mainly use computer and projectors. But our school has recently setup a Multimedia Interactive Board, which has made presentations easier and more interactive. (Teacher 3)

As identified by the participants, the main use of these ICT forms was to prepare PowerPoint presentations of class notes and exams or tests. This was reflected in the following responses:

Sometimes, some kids don't like writing notes over and over. If I make a presentation, I print out the presentation handout for kids to read and I present the PowerPoint presentation. It's easier for discussion. (Teacher 1)

Instead of writing down notes, we create a PowerPoint slideshow to discuss with the students, in that way it is more effective for the kids to learn. They are basically looking at the notes and taking it all in slowly at their own pace. (Teacher 2)

Subsequently, this correlates to Project Tomorrow's (2008, cited in Ertmer & Ottenbreit-Leftwich, 2010) report, whereby these usages are referred to as 'low level', in that they only support traditional teacher instructional methods. They are 'not powerful or innovative' (Herman, Tondeur, van Braak & Valcke cited in Ertmer & Ottenbreit-Leftwich 2010: 257). This means that despite having access and adequate knowledge of ICT, their utilisation is not effective. In other words, the only visible change is that the technology is available, but what it is used for (note taking and note copying) is no different from when it was not available.

Causal Barriers affecting ICT use

The responses from the participants were categorised into two subthemes for clarity. They highlighted the views of participants on the challenges that hindered them from using ICT effectively. These responses were grouped under external barriers and internal barriers based on their controllability.

External Barriers

Some of the issues raised by the participants referred to factors that were beyond their control. This meant that they were outside the boundary of teaching and were caused by either technical difficulty or lack of resource supply. These were reflected in their responses:

I want to use ICT in my lessons, but there are not enough computers in my school. If I want to use the available computers, it is either used by another person or it is broken. (Teacher 1)

I like using computers in teaching, but when it is affected by virus, it gives me a headache and I go back to using newsprints and the blackboard. I do not have time to fix it. (Teacher 2)

It is always fun to use ICT in teaching. But what bothers me a lot are the power outages. Especially when our school runs out of cash power and I have already prepared a presentation for my class. (Teacher 3)

Although these barriers were worth highlighting and suggesting possible action for remedied, these were however, beyond the control of the participants. It would involve other people and even the community as a whole.

Internal Barriers

The participants highlighted the issues of knowledge and time as the causes of teachers' inability to use ICT in their teaching. This was reflected by the following responses:

I think the only barrier would be that some teachers don't know how to use computers. (Teacher 1)

Teacher 1 further explained that only computing teachers were equipped with this knowledge whereas most teachers were on a need to know basis. These teachers are referred to as the older teacher population. In fact, this was also noted by Teacher 3:

I think the most common barrier is not having enough knowledge especially the oldies. They give me all their exams and notes to type because they don't know how to use a computer. I want to help them, but they might say I'm a 'fiapoko'. (Teacher 3)

In the case of Teacher 3, 'fiapoko' is referred to as a 'know-it-all person' or a 'show-off'.

In this case, lack of knowledge seemed to stem from different perspectives between the older and younger teachers. But this is typical of Samoan teachers in that, the notion of respect for the elders ruled out any idea of a younger person teaching the old. This was in unison with Abbolt & Faris (2000, cited in Ertmer & Ottenbreit-Leftwich, 2010), whereby they referred to this indifference as culture. This culture conformed novice (younger) teachers to the views of veteran (older) teachers.

In addition to the lack of knowledge, inadequate time is another noted barrier. This was reflected in this response:

NO! Everyone has access to ICT. The only problem is not enough time to prepare and do lessons through the utilisation of a computer. (Teacher 4)

Teacher 4 is concerned with the lack of time to prepare and teach a lesson using a computer as an ICT form. These barriers urge for solutions, as revealed in the following theme.

Achievable Solutions

The solutions indicated by the participants, for the previously mentioned barriers, revealed their implementation in some of the participants' schools.

With regards to the external barriers of supply and access, all four participants identified 'funding' as a solution, with an emphasis on 'teacher partnerships'. These partnerships needed to be inspired, to ensure ICT was made accessible for all and collaborative work amongst teachers encouraged. This 'teacher partnership' was also reflected by several studies (Almekhlafi & Almeqdadi, 2010; Ertmer & Ottenbreit-Leftwich, 2010; Hutchison & Reinking, 2011), whereby it was recommended for improvement of ICT skills.

Regarding the internal barriers, Professional Development Trainings was the top solution for the lack of knowledge, as noted by the following participants:

*Well, we have PD training. Last year we conducted a PD training to teach the basic use of computer applications for ranking students and other functions. We also did an activity on how to use a projector. It was fun for the older teachers.
(Teacher 1)*

In our school, we have PD training. This is where we help each other out, and the computing teachers are given the opportunities to actually teach others, that way we can help each other to improve skills. (Teacher 2)

As Bauer & Kenton (2005, cited in Hutchison & Reinking, 2011) discussed, 'lack of appropriate Professional Development training is one of the main reasons why teachers do not integrate ICT in their teaching' (p. 316).

However, participants' responses showed the reality of implementation and the impact of PD's in developing ICT skills of teachers and breaking the culture of teacher barriers to make a difference. Therefore, offering training had made it possible for promoting teacher use and application of ICT in teaching and learning. In addition to PD's, Teacher 3 included workshops and training:

There needs to be enough training, workshops and PD's where teachers can all get together and learn from each other. (Teacher 3)

On an extensive note, Teacher 4 added the need for upgrade courses:

Teachers need to upgrade their knowledge by taking courses at NUS. Teachers need appropriate knowledge. (Teacher 4)

This view corroborated with Chai et al. 2010 (cited in Shan, 2013) study results, 'where teachers who took an ICT workshop utility course, showed positive transformation in ICT knowledge as well as their views, upon completion of the course'.

Summary

The findings of this study showed that teachers do have knowledge of ICT. They also incorporated ICT forms such as computers, projectors and others in their teaching. However, the knowledge and utilisation of ICT was basic and traditional. This basic knowledge is two folded.

Firstly, participants mainly referred to forms of ICT as only computers and projectors. When in fact, there is a wide range of ICT forms that were readily available in schools and in the country as a whole. Secondly, participants only used these forms for PowerPoint presentations of class notes and exam preparations. In other words, ICT role was seen as enhancement of traditional teaching and learning methods. This meant that notes that were traditionally written by teachers on the board were now presented on computers. However with regards to student learning, the method of copying notes remained the same. Therefore, the effective utilisation of ICT forms was not observed.

The study findings also highlighted barriers that contributed to the varied opinions of teachers with regards to ICT. External barriers such as lack of supply and access were worth noting. However, emphasis on internal barriers was heavily discussed due to their impact on teachers' views of ICT. The underlying factors noted by participants were the lack of ICT knowledge and considerable time for implementation of lessons with ICT integration.

The achievable solutions to these barriers outlined the vital role that Professional Development programs, workshops and training play in changing the perceptions of teachers. It was evident from the responses that PD's are critical in improving teachers' knowledge and awareness of the importance of ICT integration in teaching and learning. As discussed, implementing these trainings had proven instrumental in changing the views of veteran teachers towards ICT, as described by Teacher 1 and Teacher 2.

In addition to these PD's and workshops, upgrading teachers' knowledge by undertaking ICT course was also highlighted. As explained by Teacher 4, teacher upgrades in ICT use, could better equip them with relevant knowledge, thus enabling them to integrate ICT in their teaching.

Conclusion

As predicted, this study revealed teachers' awareness of ICT and participants have incorporated this method in their teaching. The forms of ICT applied in teaching veered towards the use of computers as others had predicted and also from observations based on the findings. Indeed the literature discussed ICT in other countries. This urged the researcher to seek out the perceptions of local teachers on the usage of ICT as an educational device for teaching. In trying to achieve the purpose of this study, three research questions were answered as follows.

Why is ICT relevant in Samoan classrooms? The findings showed that participants are in agreement with regards to ICT's relevancy. This is because ICT made teaching easier and student learning fun and interactive. Despite its usage as considered basic, it did not rule out the fact that it was a great shift from traditional methods of chalk and talk, to a more visual and technological approach.

What evidence is available of ICT's effectiveness on teaching? The stories shared by participants helped to paint a clear picture of the effectiveness of ICT. According to Teacher 2, students learning

via ICT teaching were reflected in a steady and consistent improvement of exam results over the last five years, compared to the years before that. Furthermore, participants shared that ICT was indeed effective in that they did not need to print out thick handouts of discussion notes for the students anymore. This was due to the availability of student flash drives and other ICT forms where transferral of information was made easy.

Is ICT the missing link to quality teaching? As highlighted by the participants' responses, ICT was without a doubt, the key to quality teaching. The awareness was there but knowledge was insufficient. However, on a positive note, teachers were willing to learn. From the findings, it was evident that much work needed to be done. The issue of quality education is of utmost importance. An 'ICT based teaching and learning approach' as stated by Bhatta (2008, cited in Paudel, 2015), could help address this. This could only be achieved if teachers have adequate knowledge of ICT and learn how to properly incorporate ICT into their teaching for interactive learning. It is for this reason that workshops, training and effective Professional Development programs needed to be supported and constantly monitored in order to improve ICT usage in schools.

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The Effectiveness of the Thematic Approach for Teaching Young Children

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Abstract

This research documented and described the thematic approach for teaching young children in a Samoan preschool. Thematic teaching had been implemented in Samoa since the implementation of the first ECE Curriculum. There continued to be difficulties in its implementation due to staffing problems and resource acquisition. This qualitative case study was undertaken in one of the mission schools. Semi-structured interviews collected data on teachers' understanding and application of the thematic approach in the local context. The findings indicated teachers needed more professional support and practical application to enhance their understanding of thematic teaching.

Keywords: Thematic approach, classroom teaching and learning, effectiveness

Introduction

Although the Ministry of Education, Sports and Culture (MESC) has suggested thematic teaching as the best way to provide an integrated, holistic experience for students in the early years of schooling, there is little empirical evidence that this is being practiced in preschools. Anecdotal evidence suggests that while teachers may plan to teach in this way, few of them actually implement this approach. However, there are some preschools where the approach is being used more effectively (Seupule, U. personal communication, 05 October 2019). An investigation was conducted on the implementation of thematic teaching in a Samoan preschool that was known for best practice in the area.

The fundamental philosophy behind ECE developments in the country was to provide Samoan children with an education that gave them a better start in life. Samoa and other Pacific Island Countries (PICs) all have contributed immensely to ECE in their respective countries. Ministries of Education attempted to secure the best service to ensure all children at the pre-primary school age are exposed to enriched opportunities for teaching and learning. (MESC Statistical Digest, 2019).

International Context

The most powerful tool for efficacious teaching and learning is the ability to make it interesting and relevant for students (Bubikova-Moan, Næss Hjetland & Wollscheid, 2019; Johannessen, 2000; Viliamu & Esera, 2019). International studies indicated that thematic teaching enhanced students' learning. A study conducted in a middle school in Australia to explore and investigate Science as a discipline and its relationship with other subject areas identified that thematic teaching allowed children's interaction and engagement in school. Not only that, the authentic curriculum which catered for children's interests and needs allowed them to explore and experiment the world around them (Cheewaviriyanon, 2016; Venville et al. 2001). (Becker and Park 2011) in a study conducted in the United States of America investigated the effects of an integrative approach among science, technology, engineering, and mathematics (STEM) in primary and secondary schools. The four STEM subjects were integrated and the findings showed an increase in students' knowledge in Science and Math. This clearly indicated that students who took integrated science courses did well in statistics and students who attended integrated algebra course considered Math their favorite subject.

Furthermore, other researchers argued that thematic teaching enhanced teachers' choice of logical and pertinent experiences to assist and facilitate student teaching (Ward 1996). In Samoa, schools have utilized the thematic approach (MESC and NCECES 2019) to effectively explore and extend the depth and breadth of topics of interest to encourage children's active involvement and thus expanding their understanding. While the assumption is that teachers in Early Childhood Education (ECE) are well versed in the integrated approaches there were preschools that faced difficulties with delivering the approach.

(Johannessen, 2000; Viliamu & Esera, 2019) conducted a study for English teachers in Illinois to examine whether thematic teaching helped to integrate literature, language and composition within the curriculum rather than teaching them separately. The findings revealed that teachers and students found thematic teaching more enthralling, engaging and absorbing when they interacted and engaged with more productive and rich activities that showed and promote thematic teaching skills.

Another study was conducted in Malaysia for students in lower secondary school (Form 1 to Form 3) to identify teachers' understanding and practice using thematic teaching to teach Integrated Living Skills.(ILS). Findings from Min et al., (2012) showed that ILS teachers' understandings of thematic teaching was high, however, years of experience in teaching did not affect their understanding of thematic teaching. The study convinced teachers to be creative, critical thinkers and innovative.

These findings supplemented the benefits of thematic teaching (Fogarty 1991; Mustafa 2011; Jay 1990; Loughran 2005; Jacobs 1989; Shoemaker 1989; Humphreys et al. 1981) that the approach provided teachers with the tools to bring areas of knowledge in a cohesive way that children find meaningful and understandable. The integrated approach enhanced student learning because they were involved in activities that were enjoyable. It also gave them the opportunity to wonder and become curious about the world they inhabited. Learning in this holistic manner is stimulating, engaging and fun.

Local Context

Although, there are many studies on thematic teaching at the international level, there are very few at the regional level. Viliamu and Esera (2019) conducted a study at a mission preschool in Samoa to investigate teachers' knowledge and their use of thematic approach in teaching. The findings revealed that factors such as initial training and continued professional development affected teachers' knowledge of thematic teaching approach.

Another research conducted by staff of the FOE in 2020 on ECE developments and its effectiveness on the overall educational achievement of children in Primary, Secondary and Tertiary education indicated similar findings with professional development for teachers and upgrade of teacher qualification. Parental involvement was an issue that was contentious with most preschools opting for less parental involvement in the classroom unless it was for excursion or playground supervision. (Tuia, T.T., Esera, E., & Viliamu, L.K 2021).

Preschool Context

(Kingdon 2018) explored a new approach to early childhood that provided for the child's construction of the world they inhabited as agents that continued to be actively involved in their creation. In the past children were seen as passive entities, but changes became evident and a richer description of the child had come to light. Children are more active, interactive, and creative and with a heightened sense of curiosity about the environment they live in. The state of young children's experiences involving play and role play in preschools have demonstrated how play is translated into thinking of either being or becoming.

(Gerde et al. 2013) conducted a research on science in preschool and provided suggestions on how to teach science to support children's development in the domains of child development. A number of factors were seen to affect the approach which included teachers' low self-efficacy for teaching science and lack of educational resources. It would seem many early childhood classrooms do not offer high-quality science experiences and exposure for young children. In light of these findings it is significant to note high-quality science education could support early foundation for children's knowledge and interest in science. Moreover, it would also ensure the consolidation of critical language as well as readiness in literacy and math. In addition, this used a systematic model for to involve children in observation, questioning, predicting, experimenting and sharing results.

French's (2004) article described an early childhood curriculum discussed and organized the science content into an integrated approach. The intention was to support important developmental performance of the preschool children in the areas of language development, children's acquisition of pre-literacy and pre-numeracy skills and problem solving. Focus was also on children's social interaction, and how they managed attention and time. Young children found Science content engaging as they were interested to learn about the world they live in. In this environment they acquired rich knowledge that enhanced vocabulary development and the use of higher level cognitive skills where they observed, predicted and made inferences.

(Glazer and Burke 1994) wrote about a holistic approach to language learning that took into account children's developmental stages. This encompassed teaching strategies that were deemed appropriate for each stage of development. Emphasis on oral language, reading, and early writing with practical applications were identified.

It was evident from the preschool context that the use of the integrated approach in particular the use of science was seen as instrumental in the development of skills not only in science but in oral language, literacy and cognitive skills required for future learning.

Background of the Study

Education

The United Nations Convention on the Rights of the Child Article # 28 stated that all children have the right to education (UNICEF 1989). In order to accomplish this, children need "compulsory and free education" (UNICEF 1989: 8). As a signatory to the UN, the Ministry of Education, Sports and Culture in Samoa have supported compulsory education for all primary students (MESC EFA 2016: 19). The UN Convention on the Rights of the Child Article #29 stated that the goals of education should be to "develop

each child's personality, talents and abilities to the fullest. It should encourage children to respect others' human rights and their own and other cultures. Significantly, this should also help them learn to live peacefully, protect the environment and respect other people" (UNICEF 1989: 9). Therefore, teachers play a vital role in a child's development in order to achieve these holistic goals. As such this prompted an investigation into the effectiveness of the thematic approach in preschools.

Education in Samoa

Samoa's education system is structured as Preschools (ages 3-4), Primary (ages 5-11), Secondary (ages 11-16) and Tertiary (ages 16 plus). Most children were taught in stand-alone preschools with the exception of a few.

The MESC vision articulated, "A quality holistic education system that recognizes and realizes the spiritual, cultural, intellectual and physical potential of all participants, enabling them to make fulfilling life choices" (MESC Website 2020). The vision underpinned the belief that the MESC's focus and priority is on all levels of education including ECE. MESC also supported the use of thematic teaching at the early childhood level.

From 1970 the government of Samoa started to invest in early childhood education "as a private undertaking and community initiative" (Education for All 2015: 19). Through a Cabinet approval in 1976 ECE was recognized as a body of Samoa's education system (MESC 2016: 19). ECE continued to expand and was coordinated and operated by private and mission organizations. The Education for All (2016), documented "ECE centers are the responsibility of the private sector under the management of various non-government bodies" (p. 19). Moreover, MESC Statistical Digest (2019) indicated that the National Council of Early Childhood Education in Samoa NCECES governs ECE operations in Samoa with the MESC assistance.

The Early Childhood Education curriculum thematic teaching was considered an effective and positive way to integrate knowledge, skills and values in the different subject areas. The emphasis focused on the selection of various themes and topics which were relevant to the Samoan context, catered for children's interest and most importantly link and connect all the subject areas into children's learning experience. Experienced preschool teachers use language enrichment opportunities and play activities which are essential requirements to motivating young children to engage in their own learning, be critical thinkers and be creative.

Methodology

The qualitative design examined teachers' knowledge and the use of thematic teaching in one mission school. It targeted participants' views, their meaning and subjective perspectives (Berg, 1989; Hatch, 2002). Participants had different experiences on thematic that influenced their teaching; "to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (Denzin & Lincoln, 1994, p. 4). The qualitative case study research (Njie & Asimiran, 2014) specifically focused on a particular case or bounded system to get rich and thick descriptions of the phenomena. Consequently, the natural setting helped the study to understand participant's behaviour, attitudes and their interactions.

Individual, face- to- face interviews were conducted with the participants in the staffroom where there was minimal disruption. These were audio taped and each participant was interviewed for 30 minutes. The interviews took one week to transcribe and another week to translate into English.

Interviews were the main instrument used to collect data. A semi-structured interview schedule was designed for preschool teachers and the principal. The same questions were asked of the participants with differences when there were areas the participants needed to elaborate or prompting and probing was necessary. The interview schedule for preschool teachers focused on how they gained knowledge, and how they planned and implemented thematic teaching in the classroom. The interview schedule for the principal was based on her role and responsibilities in the school and the programme conducted to improve teachers' knowledge.

Information gathered from participants was categorized as emerging themes, concepts and patterns (Creswell, 2007; Krueger & Casey, 2009; Miles, Huberman & Saldana, 2013). The transcriptions were read through a number of times to glean participants' experiences and make connections. Meaningful patterns or themes that Corbin and Strauss (2015) referred to as "integrating the concepts around a core category" (p. 81) revealed the extent in which participants used and applied thematic teaching in practice. This made it possible to surmise and infer from the data to respond to the research questions. Raw data is simply raw data until the researcher synthesized and integrated the themes into a holistic entity (Miles, et al.).

Once the participants' transcriptions were completed data analysis was utilized to make comparisons of participants' explanations, descriptions and interpretations. Moustakas (1994) posited, "Reflective interpretation of the text is needed to achieve a fuller, more meaningful understanding" (p. 10). Emerging patterns and themes were categorized for coding. Predefined codes and emerging ones were sorted and cross checked for common patterns and utilized in the thematic analysis.

The mission Preschool Board granted permission to conduct the study following a meeting of the principal of the preschool and teachers. Oral consent was obtained from the participants before the written consent was signed. Participants' involvement were acknowledged. As Denzin and Lincoln, (2005) stated the "subjects agreed voluntarily to participate that is without physical or psychological coercion and their agreement was based on full and open information" (p. 144). Moreover, the researcher ensured that the participants were aware of both the nature and purpose of the research and protected the subject from harm or danger. In addition, participants were assured that the information gathered was confidential. They were also told that they were free to decline participation or withdraw from the research at any time. The researcher was aware to conduct herself in an ethical manner at all times but was also responsible to ensure the dignity and the welfare of all participants (APA Ethics Codes, 2002). As part of their involvement participants' would be given a copy of the report findings.

Findings

Parents and Community Involvement

Teachers emphasized the importance of parents and community involvement in young children's learning. They were invited to help with children's reading and as guest speakers on a theme. Parents also requested to participate in meetings and during parents' day and when they were invited to discuss their children's performance and achievement in class. It was also a prospect to share some of the issues that faced children's learning and ways to overcome and support them. Parents would also have the opportunity to look at some of children's display. Teachers had this to say:

Teachers need the support from parents too especially when children go home with their homework. Some children came to school the next day with books still in their school bags because the parents do not bother to check whether they have work or they do not help. During parents day, when they see their children's progress they say, my little girl has changed a lot and she can do this and that. She has improved a lot.

Parents complain about teachers that more should be done for the children. However, more parental involvement would ensure that teachers and parents have a better relationship to support children in preschool. Parents that become involved can see their child's progress and are nicely surprised at what they can do such as working and sharing with others, drawings pinned on the classroom walls, being actively involved in singing and dancing although some of them were shy to start off with.

Holistic Development

All teachers described the importance of child development in the teaching and learning process. Teachers' ensured that children develop physically, socially, emotionally, intellectually and spiritually as well as being motivated to learn. Physical activity play a critical role and which allows children to move from place to place during hands-on activities enabling body of and gross and fine motor skills. Interaction among teachers, peers and the environment encouraged social development. Emotional development involved children's feelings towards things that surround them using their senses. Intellectual development focused on children's thinking and intellect through experimenting, exploring and researching. Significantly, teachers reported that children at this stage of development were open to investigating, exploring and discovering things on their own. Teachers on holistic development offered the following:

I always encourage movements and play in my classroom to allow children to develop their body physically. Once the child is healthy and in a good mood, teaching and learning occurs. Holistic development of the child is very important especially at this stage of child development.

I find children enjoy practical, hands on activities where they engage and communicate with other children. The themes from the curriculum ensured they were engrossed in constructive, productive , fruitful and fun work that support their physical, social, intellectual and emotional development. Children's knowledge, skills and practice are internalized through communication with their peers

I display and decorate the classroom with activities children worked on like drawings, paintings and worksheets. From time to time or during Parents' Day parents, principal and teachers come to view the topics and the work the children had covered which would include displays on integrated subject areas in the languages, social studies and science.

I always encourage movement and play in my classroom to allow children to develop their body physically. Once the child is healthy and in a good mood, teaching and learning occurs. Holistic development of the child is very important especially at this stage of life.

Language Development

Teachers said they found the thematic teaching assisted children's language development. This happens when they collaborated and engaged in class activities. Young children develop language quickly and easily by communicating and interacting with others. One of the teachers mentioned that introverted children did not want to take part in class discussions especially when the teacher was present.

However, when they were asked to work among themselves in groups they dominated the whole discussion. Interaction among students allowed them to speak and voice their opinions and ideas. This is what teachers said about language development:

I always give them activities to play and share with others to develop their language. Some children are so shy to talk in group discussions but when they interact and engage in activities I see them conversing and sharing with others.

Play encourages children to develop their language. When they play they interact with other children by sharing, talking and laughing which indicates that they are learning a lot from each other. Children love to play at this stage of their development and I always use play as a technique to draw their attention to the use of language and the new words they share or experiment with during play. Sometimes in play I would call out a word and children would act or mime the word and they would take turn if one has a new word and others would act or mime.

Conclusion

The effectiveness of the thematic approach for teaching young children as deduced from the findings indicated the need for parental and community support. Parents that took an active interest in their child's performance would show an interest in what the child did; discuss what they had done at preschool in terms of interest and novel experiences. Moreover, nurturing the child in all aspects of development is an important component of the thematic approach. Children should be exposed to learning drawn from experiences of home, the environment and the cultural context as these would be interrelated in some form or another. The language issue was perceived to be a critical requirement as children's learning in the early years hinged on communication, exchanges and interchanges with other children or the significant other which are teachers and parents. Undoubtedly this study could inform future research on best practices for the implementation of thematic teaching. The study is a start and should provide baseline information on best practices to be modeled by other preschools in Samoa. Consolidation of best practice in preschool in the country should highlight the effective use of the thematic approach. Finally, the study should broaden and assist teachers of preschools to gain a better

understanding of the approach its potential and application to preschools in the cultural setting of Samoa

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Teacher Supervision 'A Dilemma for Samoa': The Issue of Cultural Relativity in the Supervision Literature.

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Abstract

There is an assumption in the literature that philosophical concerns in the supervision and mentoring discourse apply across culture however this commentary paper argues on the contrary. The paper examines the ethnocentrism notion of supervision as highlighted in the literature and makes a case about the importance of considering supervision from a cultural relativism perspective. The paper provides a general examination of the supervision concept then it focuses more specifically on supervision as it is applied to teacher supervisors and student teachers from my own cultural context. It highlights the authoritarian nature of supervision as it is applied in this context and concludes with some thought provoking questions that researchers may wish to take into consideration while involved in current debates on supervision and mentoring.

Keywords: Supervision, Teacher, Samoan Culture, Authoritarian

Introduction

'Supervision was understood chiefly as a function and role in public schools aimed at improving the quality of instruction'

(Glanz 1998: 40)

The notion of supervision is widely discussed in the literature and a number of issues have surfaced regarding this concept. This paper will primarily discuss some of the issues related to supervision as highlighted in the literature and in relation to Samoa, a transforming traditional society. Firstly it will critically examine the literature provided in terms of its application to Samoa. Secondly, it will provide a snapshot of how supervision is applied in Samoa from the teacher supervisors' perspective. The paper will then offer a brief discussion on the notion of cultural relativism as it relates to supervision within the Samoan context and then conclude by emphasizing the importance of considering cultural relativism in understanding teacher supervision.

The supervision of students is a construct of many influences. For example, Glanz (1998) notes the influence of colonialism on the American educational system. Similarly, Samoa has also had an association with colonialism that has resulted in the increasingly complex evolution of its culture and society. The notion of bureaucracy and professionalism noted by Glanz and others was introduced to Samoa around 1840 (Gilson 1970) with the establishment of the role of pastor/teacher by the London Missionary Society.

Pastor/teachers were Samoa's first professionals and the church apparatus its first bureaucracy. Wilkes (1845 cited by Gilson 1970) reports that by 1845, some ten years after contact with the London Missionary Society, 10,000 adults and children were receiving instruction in reading and

writing in what seems to have been a well-organized church educational bureaucracy in which the missionaries were the supervisors (Davidson 1967; Gilson 1970, Keesing 1934; Meleisea 1987a). Using a notion developed by the German sociologist Max Weber, the Samoan historian Malama Meleisea (1987) grounds his thesis about the modern Samoan organizational dilemma on the establishment of a legal/rational system of social organization by the German colonial administrations of 1900-1914 that would from then on co-exist alongside the traditional one. The New Zealand administration in Samoa which began in the early 1920s established a school system based on the British model (Davidson 1967) further entrenching the legal/rational motif.

The Lack of Consideration of Culture in the Literature

There is an assumption in the literature that the philosophical concerns in the supervision/mentoring discourses apply across cultures but this can be demonstrated to be not entirely the case. Although referred to theoretically (Shapiro and Blumberg 1998), the literature does not present through examples the extent to which culture can be an impediment to or even a superior method with which to ground supervisory practice. I will briefly refer to some of the literature in order to illustrate this point.

Dewey's notion that modernity means democracy was influential on the first half of 20th century education in the United States (Dewey 1903 cited by Glanz 1998: 54). In Samoa modernity, as represented by capitalism and to some extent bureaucracy, are present in the social construction of many individual actors. However, modernity correlates in some societies while egalitarianism is only modestly entrenched as a philosophical idea, nonetheless, in its actual daily playing out, the notion of egalitarianism appears to be precarious.

Glanz illustrates the possibility of the contradiction between theory and practice. He argues that in spite of the presence of egalitarian motifs in American society, as Americans looked to science for answers to the organization of industry, resistance to egalitarian forms of supervision was noted. There was difficulty in distancing school supervision from past authoritarian motifs. In fact Glanz notes that egalitarian supervision "never came to fruition." (Glanz, 1998:58). This is perhaps a suitable although not a perfect analogy to the Samoan situation with regard to its traditional stratified authoritarian model of relationships, this is despite lip service being paid to more egalitarian ideas in its cultural ethos and at times in its history (Davidson 1967).

The literature highlighted later models of supervision, such as clinical supervision. These models built further upon democratic models, introducing the notion of collegiality between supervisors and student teachers (Glanz 1998; Goldhammer 1969) which has greater relevance to the Samoan context.

Sergiovanni and Starrat's three part argument that "human growth, achievement of disciplined skills and knowledge, and fulfillment of social responsibilities - should not be in conflict", (Sergiovanni and Starrat 1988: 235; 2007) also has application to Samoa. Here, the notion of fulfillment of social practices dominates life in both the school, home and supervisory settings and would take precedence over the other two parts of their schema. Indeed the delaying of

immediate gratification for a higher goal that the authors note, is particularly evident in Samoa where the stratification system demands almost total deferral of personal gratification until much later in life. The teacher/supervisor is often an active or tacit conveyor of cultural practices such as these.

As in the Zeichner and Tabachnik (1982) study, a variation of the reproduction of belief systems also takes place in Samoa. If anything the Samoan system could be said to only allow for the technical-instrumental aspect of the authors' model. Indeed, that is the extent to which the Samoan educational system has gone in the conveyance of knowledge and/or the secondary socialization that is required for modern capitalistic/bureaucratic sensibilities and the economic needs of this small transforming society.

The idea of being analytical of one's own performance, as suggested in the clinical supervision model, would simply not be easily considered within the Samoan education system at this time. This perhaps reflects Samoa's distance from the mainstream pedagogical discourses and the persistent of the influence of the old New Zealand system in spite of Samoan independence from NZ since 1962. There is also the cultural practice of giving to the authority figure all responsibility for the definitions of situations, to utilize the construct of the social psychologist W.I. Thomas. Thus, as Hogan (1983:30) argues "... people's perceptions of education and of teaching are almost invariably bound up with their own ideologies or undisclosed prejudices" and in Samoa this is the case. Hogan's argument is supported by (Shapiro and Blumberg 1998: 1056) who write that

"the social context in any society defines the issues that will be considered, determines the interaction and discussion, and often determines which issues or concerns will not even become conscious matters for consideration.

While Zeichner and Tabachnik argue that 'a careful self- scrutiny of one's belief system with regard to supervision is a necessary part of a supervisor's education' (Zeichner and Tabachnik 1982: 51 cited by Hogan 1983: 32), the notion of self-examination is simply not a dominant one in where I work as a teacher educator. For example, entrenched cultural Samoan values including the hierarchical nature of the Fa'a Samoa seem to influence teacher educators' own practice thus teachers seem to define the teaching and learning situations.

With respect to males there is some evidence of positive effects of mentoring relationships that are paternalistic as noted by Cochrane-Smith and Paris (1995: 188). This suggests a hierarchical form of mentoring (p.189), which they claim is not suited to the mentoring of females. However, there must be a cultural relativism operating in the case they present. In Samoa, hierarchical supervisory relationships seem to work for both males and females. This may be due to the uniform stratification issues in which both genders are involved, although it is claimed that females have higher status than males in the traditional system (Shore 1982). For both genders knowledge is handed down from above in an extremely authoritarian manner. The form of supervision which Cochrane-Smith and Paris support, shared activity, could not be a comfortable method in Samoa at this time. This is perhaps because, as Dewey (1904/1965: 153) argues, one cannot "...isolate the psychology of learning that goes on in the schoolroom from the psychology of learning that goes on elsewhere" In the Western model the transformation of mentalities is

often expected to be ongoing and in part progressive. However, in Samoa we do not encounter points of view, such as Goldhammer's who notes,

"I have worried about the archaic dependencies we manifest upon authority for initiation of our intellectual tasks... I am troubled by what seems to be the common absence of intellectual autonomy and the common prevalence of docility and anti-intellectualism among us"

(Goldhammer 1969:49 cited by Smyth 1986).

As Smyth argues "so much of what teachers do in schools appears to be habituated and originates from social conditions over which they are effectively prevented from exercising deliberate control." (Smyth 1986: 133). Smyth could be describing the Samoan case, which is pervaded with authoritarian control, where teachers are in full control of the teaching and learning situation. This notion of teachers defining situation is also noted by Roberts and Blasé (1995) when they highlighted modes of manipulating and defining situations as one of the factors that can influence supervisor-teacher interaction. Indeed, to paraphrase Blumberg (1980: 192), it is unlikely that student teacher-supervisor relationships are seen as inherently humanistic in Samoa but rather appear to be more of the ritualistic stratified variety as are most face to face relationships in this society. Again, while this may be a universal aspect of dyads in the west, there is no question for Samoans as to who actually gets to define situations– the answer unequivocally is the lecturer-supervisor.

Views Concerning Teacher Supervision in Samoa

I would like to further clarify the current view of supervision in Samoa by briefly presenting some data based on the results of a study that I and other colleagues carried out during an evaluation of teaching practice in Samoa (Esera et al. 2010). The primary purpose of the study was to discover perceptions about teaching practice on the part of supervisors and what they perceived their roles as supervisors of student teachers to be. Data was collected via teacher interviews, student teachers' feedback as well as anecdotal material based on our own experiences in the field. We conducted interviews with 13 teachers from 4 urban primary schools. The teacher participants had been involved in supervising student teachers over a number of years. A set of ten questions were developed and asked of the participants. The authors also collected data via verbal interactions with student teachers after teaching practice to find out their views concerning their teaching practice experience. Findings from supervisors indicated 90% of supervisors opted for a very authoritarian top down approach to supervision. Findings from student teachers also indicated a very authoritarian approach to supervision by teacher supervisors. This authoritarian approach was deemed very unfavorable by student teachers i.e. student teachers were extremely critical of the excesses of the authoritarian approach taken by supervisors such as their superior, high handed demeanor towards student teachers.

The Samoan Context and Notion of Cultural Relativism

On the basis of the literature review, my own observations and views concerning teacher supervision in Samoa as noted above, the following question surfaces. How do the present debates and discourses in the literature provide for an understanding of the Samoan system and its differences from the mainstream examples that the literature presents?

Overall I believe they point to an issue of cultural relativism. A more authoritarian approach reflective of similar cultural motifs of supervision in some societies in Asia and Oceania may work well for the goals of education as presently constituted in these societies. These goals are mostly concerned with instrumental training and not education for its intrinsic value, nor for the expansion of self-awareness in any analytical or critical sense. These societies may in fact not be stakeholders in the democratic project in the way that the Western world has been. For example, societies in Oceania are mainly organized by family groups, and not by overarching centralized government.

In evaluating this system perhaps plausible questions for scholars and educators in Samoa to ask would be: are student teachers learning under the authoritarian supervisory type system? I would argue that this authoritarian supervisory system appears to be working for teachers in the Samoan context. Why? Because based on experience and observation, these individuals seem to be able to achieve their educational goals under this type of supervision. Besides, I and my colleagues have progressed under the same type of supervision within our own context, and are now participants in a structure of learning in which we are able to demonstrate our capacities to serve and to some extent, enlighten. Although I am a participant in the reproduction of an authoritarian supervisory system, I argue that the very hierarchical nature of the Samoan culture has greatly influenced individuals' paradigms and mindset as reflected in this authoritarian approach, and changing one's cultural values and belief system is not always an easy.

What is worthy of consideration would be to continue to maintain the stability of the current supervisory system, correcting its deficiencies with respect to supervisor excesses, while understanding the capacities of other forms. I would hypothesize with apologies to Dewey that if this authoritarian supervisory approach is not working it is highly likely that the entire social structure of Samoa would be in disarray but this is not the case at present.

Conclusion

The notion of supervision is influenced by many philosophical views such as the egalitarian, democratic and authoritarian approach to supervision. The supervision literature however is critique for its lack of consideration for culture. For example, teacher supervisors from a very hierarchical culture such as Samoa may have problems in understanding how supervision from a more democratic and egalitarian perspective as noted in the literature may apply in their own situation. This view seem to be supported by the findings on a research undertaken on Samoan teacher supervisors which clearly indicated that a more authoritarian type of teacher supervision seem to prevail within the Samoan context. The hierarchical nature of the Samoan culture seem

to have greatly influenced the manner in which individuals from within the Samoan context carry out their everyday life, which can include supervision of other individuals. The notion of cultural relativism is worthy to consider when one is involved in trying to understand and unravel the concept of supervision and how it works from culture to culture.

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ACKNOWLEDGEMENT

The editors thank Dr Lonise Sapolu-Tanielu for her assistance in preparing this special issue of the Journal of Samoan Studies by the National University of Samoa Faculty of Education. Dr. Tanielu is an expert on the history and early development of education in Samoa and formerly a Senior lecturer in Education at the University of Auckland.

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