Preparedness of Pre-service Teachers for Inclusive Education in the Solomon Islands

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Abstract: Recent policy changes in the Pacific Islands have seen a strong emphasis on implementing inclusive education. Preparing teachers for this change in education will be essential if they are to have the knowledge, skills and understandings so that they can become inclusive practitioners. Pre-service teacher education will play a critical role in supporting this process. This paper considers the perceptions of pre-service teachers undertaking the first year of the Diploma of Teaching in the one university in the Solomon Islands. This is the only university that prepares teachers to work across the entire archipelago. Data are collected pre and post participation in a course on inclusive education to identify its impact on pre-service teachers' intentions, attitudes, concerns and teaching efficacy to teach in inclusive classrooms. Data are used to inform the proposed revision of the existing teacher education program to address education reform towards inclusive education.

Key Words

Pre-service Teachers, Inclusive Education, Solomon Islands, Attitudes, Efficacy, Teacher Education, Intentions

Introduction

The Solomon Islands consists of nine main islands and a number of smaller islands situated in the South Pacific Ocean off the East Coast of Papua New Guinea. With limited resources and weak school administration, quality education is an ongoing problem (Save the Children, n.d.). Access to schooling for all ages is restricted, especially in the early years (Ministry of Health & Human Resource Development (MEHRD) draft, (November, 2013). Data availability on school attendance is limited with Multiple Indicator Cluster Surveys (MICS) by UNICEF reporting that of the 260,000 children under the age of 18, of which 82,000 are under the age of five years, the net gross enrolment ratio of pre-primary education is 49 percent; net-attendance ratio in primary education is 65 percent; and net-attendance ratio in secondary education is 29 percent. In the most populated province of Malaita it is estimated that 36 percent of school aged children are not attending school (MEHRD, draft 2013). These figures are not disaggregated for disability and it is estimated that very few children with disabilities attend schools. According to available data collected by the MEHRD (Draft, 2013), the percentage of children with disabilities enrolled in schools in 2006 was 1.6 percent females and 1.9 percent males. In 2012, the percentage was 1.3 percent females and 1.7 percent males, indicating a small reduction for both genders. Children with

disabilities are mainly enrolled in primary and community high schools with none in the rural training centres. To address this it has been proposed in the Solomon Islands Performance Assessment Report (PAR) that:

> There is a need that all actors in the Education Sector at the National, Provincial, Education Authority, School and Community levels to collaborate and provide the necessary support and assistance to improve the education of our children. It is very important that we work together in a team spirit and avoid being confined to departmental settings to achieve more (PAR, Draft, 2013, pp. 2-3).

There is, additionally, a shortage of qualified teachers and overcrowded classrooms in the urban areas of the country. To address the poor quality of education it is critical to ensure that teachers are better prepared to cater for the specific needs of children within the Solomon Islands. This is particularly relevant as the Solomon Islands move towards adopting an inclusive approach to education for children with disabilities. This research investigated the preparedness of pre-service teachers to provide quality inclusive education for all learners in the Solomon Islands through the revision of a university course to focus on inclusive education.

Defining Disability in the Solomon Islands

In the Solomon Islands' cultural context, social attitudes influence the way society perceives and defines disability. Disability is often related to a notion of evil, magical conflict, fear and guilt (Gratrell, Manderson & Jennaway, 2013). When a child is born with a disability, the stigma, therefore, stays with them and their families. The Convention on the Rights of Persons with Disabilities (CRPD) defines disability as "persons with long term physical, mental, intellectual or sensory impairment which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others" (Article 1). A study on Pacific children with disabilities by UNICEF (2010) used this CRPD explanation to define disability in the Pacific Islands, which includes the Solomon Islands.

Education in the Solomon Islands Education is free but not compulsory in the Solomon Islands for children aged five to 12 years (MEHRD, 2012). Even so parents are still required to contribute to the school for school development of infrastructures and facilities. Direct costs, such as school fees, have been found to be a deterrent for families, thus increasing the probability of a child being excluded from education (Ashley, 2005). In urban areas most parents are able to pay these school fees but in rural areas some parents are unable to afford them, so they do not send their children to school.

Originally most schools were run by church groups. Following independence in 1978 the Government began to establish some public schools. In 2015, though, the majority of schools are still operated by church groups with Catholic, South Sea Evangelical, Church of Melanesia, Seventh Day Adventist, and United churches being the main providers. During early childhood education (ECE) and the primary years a generalist teacher covers all curricula areas. In the secondary school, teachers specialise in delivering specific curricula. In the rural areas both school and class sizes are relatively small, typically being less than 70 students per school with approximately ten per class. In the urban areas schools are big with up to 800 children and classes of 40 to 60.

Access to Education

A review of statistical data from 2006 – 2013 (MEHRD) (Draft, 2013) provides comment on the Solomon Islands Education Management Information System (SIEMIS). The Performance Assessment Report (PAR) is aligned with the 2013-2015 National Education Action Plan (NEAP) and the international Education For All (EFA) and Millennium Development Goal (MDG) 2 (To achieve universal primary education) and Goal 3 (To promote gender equality and empowering women). Data are obtained from the annual school census and includes information on the population, student performance and financial information. The SIEMIS has the current and historical data for all education ECE, primary, secondary and the technical vocational education and training.

At the early childhood stage the PAR indicates that there is low participation for children aged 3-5 years with no noticeable progress over the seven year period; due to a lack of places to accommodate all statutory aged children. This is seen as being compounded by geographical distance and low governmental support (MEHRD, 2013). In addition, only a few centres have water and sanitation facilities, which are deemed the most essential important service that this age group needs.

In primary schools the *Solomon Islands Standardised Testing Assessment* (SISTA) results indicate that there is critically low performance in literacy and numeracy of primary children in Years 4 and 6. In the PAR it is posited that in order to address this "…increased effort and resources needs to be put into the basic education sector in the Solomon Islands" (PAR, 2013, p. 4). Many issues impact on improving the quality of education in the Solomon Islands including changes in population growth, access, the number of children who repeat grades, the move towards age appropriate placement, and teacher supply and demand.

In secondary schooling a key issue is the lack of places at the junior and senior education levels to accommodate all children enrolled in primary schools. Similar issues to primary impact on access to quality secondary education and in particular is the lack of sufficient teachers to meet the demand.

Education for Children with Disabilities in the Solomon Islands

As with many other Pacific countries, many children with disabilities in the Solomon Islands are often kept back at home and looked after by their parents (Simi, 2008). Very few attend schools (UNICEF Report, 2012; Sharma, 2012). According to a National Disability Survey report (2005), children with disabilities are not gaining equal access to education although many of the children have expressed a desire to go to school. Children with disabilities are enrolled mainly in primary schools with very few making progress to secondary schools (MEHRD, 2013). Those who make it to secondary schools tend only to stay for a few years (Sharma, 2012). The reasons are various and include parental fears, lack of resources at schools to cater for the learning of the child with disability, poor school environment, and teachers' negative attitude because of a lack of knowledge and training to teach children with disabilities (UNICEF Pacific Report, 2010; MEHRD Report, 2013).

According to a MEHRD Report (2012) it is estimated that only 2 percent of all children with disabilities have access to any form of education in the country. The provision of education for children with disabilities is an agenda that the Solomon Islands Government is yet to adequately address within its education system and continues to remain a challenge (Sharma, 2012).

Currently, there are two special schools that provide education for children with disabilities. The Red Cross Special Development Centre is situated in the capital Honiara and

catered for 111 full time children in 2013 ranging from three months to 20 years and living locally. This centre enrols children with disabilities including those with learning difficulties, visual impairment, hearing impairment, behaviour difficulties, development delays, Autism, Down syndrome and others with mild physical disabilities (Red Cross Special Development Statistics, 2014). There is also one school for the deaf catering for approximately 50 children. In addition, children may attend from other provinces for short intensive interventions for approximately 2-3 weeks. Children are referred from regular schools, health clinics, or from parents and given a thorough assessment by the community based rehabilitation workers at the Red Cross Centre to determine how long they will be expected to stay. Depending upon progress children will be returned to the regular school system as soon as possible. Many children with disabilities, therefore, spend short periods of time in the special school receiving intensive intervention. Approximately half of the children attending the Red Cross Centre or the special school for deaf children remain in these schools throughout their education. Older children 16+ are able to transfer to the Technical Vocational Education Training Centres (TVETC).

Inclusive Education in the Solomon Islands

In addition to the two special schools in the Solomon Islands the Government is moving towards establishing an inclusive approach for the education of children with disabilities. The National Education Act (1981), states that education should be made accessible to everyone regardless of their gender, race, ethnicity, religion, ability and disability. The MEHRD National Education Action Plan (NEAP, 2013 – 2015), purports a vision that all Solomon Islanders will develop as individuals and possess knowledge, skills and attitudes needed to earn a living and to live in harmony with others and their environment. In essence, the MEHRD is responsible to coordinate and monitor the delivery of education services in the country and to ensure that everyone has access to education. Providing access to education for children with disabilities remains a challenge (Sharma, 2012). Since there is no policy at the National Government level and at the school level to guide the provision of education for children with disabilities into regular schools, many schools do not accept children with disabilities. This was evident from a study that examined school principals' perceptions on inclusive education (Sharma, 2012) when a principal said that 'non-existence of any policy to enrol or educate children with disabilities is one of the major reasons schools are not interested in enrolling such students. We don't know what we are supposed to do with such students. We also don't know if we will get any support when we enrol such students in our school" (Sharma, 2012, p.18). This highlights why many children with disabilities are not accepted into regular schools in the Solomon Islands.

In 2014, the MEHRD was working on developing an inclusive education policy and implementing support for the Solomon Islands. The MEHRD has now developed a National Resource Learning Centre in the capital to support teachers and schools with implementing inclusive education. A technical working group was established and they aimed to visit five of the provinces to hold consultation meetings with local stakeholders to seek views on what they would like to be included in the policy. This research is ongoing.

With this move towards inclusive education quality teacher education will become critical to ensure that principals and teachers are cognizant of the understanding of inclusive education and how to support learners in the Solomon Islands with disabilities in their classes.

Teacher Education

The importance of reforming teacher education to successfully implement inclusive education has been recognised for many years (e.g. Armstrong, Armstrong, & Spandagou, 2010; Forlin, Loreman, & Sharma, 2014; Savolainen, Engelbrecht, Nel, & Malinen, 2012). Teacher education globally, however, has not yet responded to this call (Forlin, 2013a). In a comprehensive review of research on teacher and inclusive education commissioned by UNESCO, Rieser (2013) reported that:

> The providers of education for pre-service teachers around the world are still largely operating from a teacher-centred pedagogy and have little recent and relevant experience. They do not teach inclusive education principles. When children with disabilities are covered it is in discrete courses based upon the old deficit medical model approach. Student teachers and their educators have little practical experience in inclusive settings. Teacher educators have low status and little scrutiny of what they are doing and how effective it is. There is a reticence amongst the more progressive academics to use categorical approaches to impairment for fear of regressing into segregative medical model approaches (Rieser, 2013, p. 136).

It is, therefore, not surprising to note that a large number of pre-service teachers leave teacher education programs with apprehensive attitudes to include children with disabilities in their classrooms and higher degree of concerns about practical aspects of teaching in inclusive classrooms (Sharma, Forlin, & Loreman, 2008).

Pre-Service Teacher Preparation in the Solomon Islands

In the Solomon Islands there is one teacher training institution that trains both pre and in-service teachers to work in all of the nine big islands and various other small islands. The Solomon Islands College of Higher Education was established in 1984. This College became the Solomon Islands National University (SINU) in 2013. From 1990 to 2008 most training programs for pre-service teachers were for three years. Since a major review of the program from 2005-2008, pre-service programs were reduced to a Diploma of Teaching lasting two years to align with other Pacific regional programs such as the University of Fiji and Papua New Guinea. Primary teachers all complete a generalist program covering all curriculum areas. For secondary teachers they elect to study in two major and one minor curriculum area.

The pre-service teacher preparation program is two years of which six weeks are spent in a school practicum. The program focuses on acquiring skills and knowledge on teaching pedagogies that they can be used in classrooms; teaching methodologies; developing teaching resources; implementing the curriculum; and developing leadership attributes. Inclusive education is a new concept introduced by the School of Education and Humanities in the new Diploma of Teaching (Primary) program in 2009. During the restructuring of the program, it was decided that all core education courses would be offered in the first year with the second year of the program covering other specific courses like literacy, numeracy, arts, music, physical education, science, mathematics, resource making. Due to administrative issues and the very tight time frame, placement of the course on inclusive education was consequently assigned to Semester 1 of Year 1.

The notion of how best to prepare teachers for inclusive education is addressed through a revised seven week course of four hours per week duration. This course is compulsory for all pre-service teachers. Each week pre-service teachers receive a two hour

lecture and a two hour tutorial. The new course focuses on discussing inclusive education within the Solomon Islands' cultural context, policies, planning, developing positive attitudes, adapting the curriculum and learning inclusive teaching strategies that teachers can use in their classrooms. Two inclusive strategies namely, cooperative learning and peer tutoring, are the key approaches covered during the course.

In 2013, the School of Education and Humanities had 471 first year pre-service teachers and 341 second final year pre-service teachers. In 2014, there were 456 completing their final year, showing an increase of approximately 30 percent of graduating trained teachers. The pre-service teachers are prepared for early childhood, 3-5 year olds, primary, 6-10 years old, or secondary schools, 11-16 years old. The School also offers a one year full-time program for in-service teachers who have been teaching for more than 10 years and this is funded by the Government.

Theoretical Framework

Theory of planned behaviour (Azjen 1991) guided the theoretical framework of the current research. According to the theory of planned behaviour, the intention towards performing any behaviour is dependent on three factors: attitudes toward the behaviour; the subjective norms surrounding the performance of the behaviour; and the perceived behavioural control. In order to predict how a person will behave in a particular situation is dependent on a person's intention to perform the behaviour. The intention in turn is determined by the other three factors (attitudes, subjective norm and perceived behaviour control). The more positive the attitude, subjective norms and perceived behavioural control a person has, the stronger the person's intentions will be to enact the behaviour (Ajzen 1991). This theory has been widely used to predict intentions in a number of studies (Elliott, Armitage, and Baughan 2007; Ferdous, 2010; Fishbein and Ajzen 2010; Kuyini and Desai 2007).

This theory guided the development of the conceptual framework for this study. We were most interested in understanding pre-service teachers' intentions to teach in inclusive classrooms in the Solomon Islands. The three variables that we hypothesized would predict their intentions to teach in inclusive classrooms were their attitudes towards inclusion, their level of teaching efficacy to teach in inclusive classrooms and their level of concerns to teach in inclusive classrooms. While pre-service teachers' attitudes and teacher efficacy fit nicely within the theory of planned behaviour, concerns about teaching in inclusive classrooms does not fit nicely in the framework.

Concerns to teach in inclusive classrooms could be considered an appropriate representation of pre-service teachers' subjective norm within the theory of planned behaviour as the participants had not yet started working in a school. When participants reflect on their levels of concern they are reflecting on practical aspects of implementing inclusion and level of support they would or would not receive. In this sense it can be considered to represent participants' social norms within the theory of planned behaviour framework.

This research was initiated as a result of a partnership between the SINU in the Solomon Islands and Monash University in Australia. The intention of the collaboration was to jointly revise the existing teacher education program offered within the School of Education and Humanities at SINU to address the country's education reform towards inclusive education. The aim was to bring in aspects of inclusive education by revising a single course that previously focussed on special education. The curriculum was delivered by academics at SINU in the Solomon Islands. Academics from Monash University were only involved in

assisting the SINU staff in analysing the data to determine the impact of training. To measure the appropriateness of the new course the research was two-fold. Firstly, to identify the impact completing a course on inclusive education had on pre-service teachers' attitudes towards inclusive education; intention to teach in inclusive classrooms; efficacy to teach in inclusive classrooms; and levels of concerns. Secondly, to identify the variables that predict pre-service teachers' intentions to teach in inclusive classrooms at pre and post stages of the course.

Method

The project was approved by the Monash University Human Ethics Research Committee. Before the questionnaire was administered, pre-service teachers were told about the nature and importance of the study. They were advised that participation was voluntary, that they could refuse to participate if they were not comfortable with responding to the questionnaire, and that information gathered would be treated as confidential. Pre-service teachers were given time to ask questions regarding the study and how it might affect them. They had the option of withdrawing from the research by not completing the questionnaire.

In order to collect data from the participants, a four-part questionnaire was used consisting of four separate scales. The first scale (presented in Part 1 of the questionnaire) was entitled Attitudes to Inclusion Scale and was designed to understand participants' attitudes towards inclusive education. Items for this scale were developed based on a review of the extensive literature on inclusive education. Ten items were written as statements to capture participants' attitudes. An example of a statement is "I believe that all students regardless of their ability should be taught in regular classrooms." A Likert type response format with seven possible responses was used. The responses ranged from strongly disagree (1), undecided (4), to strongly agree (7). Of the 10 items, two were worded negatively. In order to determine, if the scale provided a reliable score, alpha coefficient was calculated based on the data obtained from the Solomon Islands cohort. The analysis indicated that two negatively worded items (Items 5 & 6) reduced the overall reliability. These two items were removed from the scale for the final analysis. The alpha coefficient for the 8-item *attitudes towards inclusion scale* was found to be adequate for pre-stage sample (.70) and post stage (0.85). The scale provides a total score the value of which can range from seven to 56 with higher scores indicative of more positive attitude scores.

Part 2 consisted of the *Intention to Teach in Inclusive Classroom Scale* (ITICS). This recently developed scale consists of seven items (Sharma & Jacob, submitted). Each item is phrased to capture participants' intention to teach in an inclusive classroom by asking them to respond to the statement: "In relation to working with students who need additional support. Please indicate how likely you will do this". For example, Item 1 "Change the curriculum to meet the learning needs of a student with learning difficulty enrolled in your class" and Item 7 "Include students with severe disabilities in a range of social activities in your class." The scale uses a 7-point Likert-type response with scores ranging from extremely unlikely (1) to extremely likely (7), with a mid-point score of 4 (not sure). This scale yields a total score the value of which can range from seven to 49. A higher score suggests that a participant is more likely to use teaching practices that facilitate inclusion of children with additional support needs into regular classrooms. The reliability of the scale for both pre and post sample were calculated for the ITICS and found to be 0.67 and 0.85 respectively.

Part 3 of the questionnaire was the *Concerns about Inclusive Education Scale* (CIES) designed by Sharma and Desai (2002). CIES was designed to measure participants' level of concerns about practical aspects of implementing inclusive education. It consists of 21 items

that are further sub divided into four factors: Factor 1 (Acceptance), Factor 2 (Work Load), Factor 3 (Resources), and Factor 4 (Academic standards). Each item presents a concern (e.g. my workload will increase) and requires participants to express their degree of concern using a 4-point Likert-type classification. The responses range from 1 (not at all concerned) to 4 (extremely concerned). The scale yields a total score, the value of which can range from 21 to 84. A higher score indicates that a respondent is more concerned about his/her ability to implement inclusion. The scale has been widely used internationally (e.g. Brunei [Bradshaw & Mundia, 2006] and Ghana [Chabra, Srivastava & Srivastava, 2010]). The coefficients were found to be 0.88 and 0.93 for the total scale at pre and post sample.

Part 4 of the scale collected information about participants' teaching efficacy to teach in inclusive classrooms using the *Teacher Efficacy for Inclusive Practices* (TEIP) scale designed by Sharma, Loreman and Forlin (2012). This scale consists of 18 items. It uses a 6-point Likert type response format ranging from strongly disagree (1) to strongly agree (6). An example of item from the scale is worded as follows "I am confident in my ability to get students to work together in pairs or in small groups." The scale yields a total score value which can range from 18 to 108. A higher score on the scale is indicative of the participants having high sense of teaching efficacy to teach in inclusive classrooms. This scale has also been used internationally and found to be reliable across different contexts e.g. India, Hong Kong, Australia and Canada (Loreman, Sharma & Forlin, 2013). The reliability of the TEIP scale was examined for the current study population and it was found to be 0.80 for pre and 0.93 for post samples of pre-service teachers.

Participants

All first year pre-service teachers studying for primary teaching in the Solomon Islands completed the questionnaire in the first and last weeks of Semester 1 of their two year training course. A total of 121 participants completed the questionnaire at both stages of the project. As there were a few missing responses in each category, the total did not add up to 121 for each category. Approximately 45 (39percent) participants were male and 71 were female (61percent). The participants were distributed across three categories based on their age (48 percent aged less than 25 years, 43 percent aged 25-30, and, 9 percent were aged above 31 years.

Procedure

Data from pre-service teachers regarding their attitude, intention, self-efficacy and concerns about inclusive practices in the classroom were collected using the self-report questionnaire. Participants were advised that the purpose of collecting data was to understand their views about inclusive education and that there was no relationship of how they responded on the questionnaire to their grades in the university courses. The questionnaire was administered by an academic. Pre-service teachers were not required to write their names on the forms. They were, however, asked to record the first four digits of their student identification number for the paired t-test purposes.

Results

A primary purpose of this research was to understand what impact the revised course in inclusive education would have on pre-service teachers' attitudes towards inclusive education; intention to teach in inclusive classrooms; efficacy to teach in inclusive classrooms; and levels of concerns. A secondary purpose was to determine what factors predicted pre-service teachers' intentions to teach in inclusive classrooms prior to them starting a course on inclusive education and after completing the course. To achieve the first purpose participants' scores on all four scales were compared from pre to post stages of the course.

Pre-stage Data

The participants rated themselves high on the scales on attitude ($M = 5.93$, $SD = .84$), and intention to teach ($M = 6.03$, $SD = .81$), well above the scale mean of 3.5. They similarly expressed high self-efficacy towards inclusive practices in the classroom with $M = 5.15$, $SD = .71$, while rating on a 6-point scale. Regarding their concerns towards inclusive practices, the participants expressed high concerns regarding academic standard ($M = 2.91$, $SD = .64$), workload ($M = 2.85$, $SD = .67$), resources ($M = 3.13$, $SD = .67$), and acceptance ($M = 2.87$, $SD = .74$) on a 4-point scale. Clearly participants were most concerned about lack of resources to teach in inclusive classrooms at the pre–stage of the project. Their self-reported attitude and intention scores, however, were well above the mean of the scales at this stage of data collection.

Post Stage Data

Data on attitude, intention, self-efficacy and concerns towards inclusive practices were collected from the same group of pre-service teachers at a second time after participating in the course.

Comparing the mean scores of the 121 pre-service teachers who completed the questionnaires at both time points (before and after the intervention), it was observed that there was an increase in the mean scores on intention, attitude, and self-efficacy and a decrease in the mean scores on concern. Nevertheless, change in participants' attitude, intention and teaching efficacy scores was relatively small and non-significant. The participants' mean scores on all scales (except Concern Factor 4) were very similar to their scores at pre-test stage of the project. Their mean attitude, intention and teaching efficacy scores were 6.10 (SD =1.01), 6.03 ($SD = 0.91$) and 5.18 (SD 0.74) respectively. Their concern scores on Factor 1 (Acceptance), Factor 2 (Work Load), Factor 3 (Resources), and Factor 4 (Academic standards) were 2.77(SD= 0.77), 2.75 (SD=0.80), 3.10 (SD=0.64) and 2.68 (SD= 0.75) respectively. Although there was a slight decline in concern scores, overall, participants were still highly concerned about a lack of resources at this stage of data collection. The only significant decline was noted in concerns about academic standards (t= 2.39, $p<0.05$) (Table 1). The level of concern at this stage, though, was still not below what would be considered acceptable for educators to implement inclusive practices.

Scale	*t*	Df	*P*
Attitude	1.67	120	.098
Intention	0.01	102	.989
Concern	1.68	100	.096
Concern_Acceptance	1.80	117	.074
Concern_Workload	1.37	109	.173
Concern_Resources	0.41	111	.684
Concern_Academic standards	2.39	117	.018*

Note: *p* < .05 (sig. 2-tailed)

Table 1: Summary of Paired Sample t-test (N = 121)

Prediction of intention

A secondary purpose of the research was to determine the factors that predicted participants' intention (mean scores) to include children with additional learning needs in their classrooms at two stages of the project: one prior to participants completing a course of inclusive education and the other after they had completed the course. Simple regressions were computed with mean intention scores as the outcome variable and attitudes, teaching efficacy and concerns (all four factors) mean scores as predictor variables.

Analysis of data from pre-stage of the project suggested that the combined list of predictor variables accounted for approximately 10 percent of the variance in participants' mean intention scores (adjusted $R2$= .099, F $(3,93)$= 4.409, $p<0.01$). It is important to note, nonetheless, that only two variables emerged as significant predictors of participants' intentions to include children with disabilities in their classroom. These were attitudes to inclusion (Beta= 0.265, $p<0.05$) and mean concern scores (Beta= 0.271, p<0.05).

Analysis of data from post stage of the project revealed more significant results in terms of overall variance explained. The same predictor variables (i.e. attitudes, teaching efficacy and concerns mean scores), accounted for approximately 46 percent of variance (adjusted R square = 0.464 , F $(3, 94$= 28.4, p<0.001) in the participants' mean intention scores. At this stage of analysis only one variable, attitude to inclusion, emerged as the significant predictor (Beta= 0.629, p<0.001) (See Table 2).

Variable	Pre stage of data collection		Post stage of data collection	
	Standardized Coefficients β	Sig.	Standardized Coefficients β	Sig
Attitudes to inclusion	0.243	0.022*	0.629	0.000***
Concerns about inclusion	0.262	0.010*	0.141	0.068
Teacher efficacy	0.070	0.562	0.133	0.123

Table 2: Predictors of Teachers' Mean Intention Score at Pre and Post Stages of Data Collection

Discussion

Legislation and policy to support inclusive education are essential to ensure that all schools are loyal to this change. Legislation will safeguard commitment and policy will specify the different roles that various stakeholder have to play and provide guidance for enacting this. With the imminent introduction of policy to promote inclusive education in the

Solomon Islands it is critical to review the impact of courses that are designed to prepare teachers for this.

This research, thus, evaluated the impact of the revised inclusive education course within the shortened teacher preparation program offered at SINU on pre-service teacher outcomes in terms of overall preparedness to teach effectively in inclusive classrooms. As this was a collaborative project as the Monash academics acted only to assist in analysing the data it is unlikely that the impact of the program could be attributed to factors other than what occurred during the academic program at SINU.

We used four critical indicators to identify the overall preparedness of pre-service teachers through consideration of four scales of attitude, efficacy and concerns about inclusive education and pre-service teachers' intention to teach in inclusive classrooms. The high degree of concerns of pre-service teachers noted at both stages of the course was found to be worrisome, with participants being mainly concerned about the lack of resources for inclusive education. This result is not new and is frequently identified as a barrier to implement inclusive education in previous research across both developed and developing countries (Forlin, 2013b; Forlin, Kawai, & Higushi, 2014; Sharma, Forlin, Deppeler, & Guang-xue, 2012).

In this research an interesting phenomenon was noted. While at the pre-stage of data collection only 10 percent of variance in participants' intentions scores could be accounted for by the three predictor variables, this increased to 46 percent at the post stage of the project. Also, while at the pre-stage two variables (i.e. attitudes and concerns) were significant predictors; at the post stage only one variable (i.e. attitudes) emerged as the significant predictor of their mean intention scores. Considering that within the theory of planned behaviour, participants' intention towards the behaviour (in this research intention to include children with disabilities) is the strongest predictor of the person's actual behaviour (in this research to include children with disabilities in their classrooms) these findings have significant implications.

This suggests that for participants to have a high degree of intention to teach in inclusive classrooms, their attitudes are most critical to improve during the teacher education program. We also know from the past research that attitude is not something that can be directly manipulated in a teacher education course. It is the range of activities undertaken in a course that impact on participants' attitudes. Some of the most effective ways to improve participants' attitudes is to ensure that they receive exposure to working with children with disabilities in successful inclusive classrooms (Chambers & Lavery, 2012; Forlin, 2003; Forlin & Chambers, 2011), learn about local legislation and policies that related to inclusion of children with disabilities (Armstrong et al., 2010) and are supported in their attempts to implement inclusive practices (Loreman et al., 2013).

Teaching inclusive strategies to pre-service teachers which has been a major focus of the revised course, without linking this to the broader context of inclusive education and applying this across all curriculum areas appears to be insufficient for improving positive attitudes, teaching efficacy, or reducing concerns in general. Continued reflection and review of the compulsory course on inclusive education is expected to occur. Consideration also needs to be given to how strategies for inclusive education can be broadened and infused across all curricula areas.

It seems teacher education programs in the Solomon Islands have to be more productive in identifying ways that pre-service teachers' concerns could be addressed at the time of teacher preparation. In this regard new teachers need to be aware of the recent developments in the Solomon Islands. One such significant development is the establishment of the National Resource Centre to support the inclusion of children with disabilities. This Centre is aimed at supporting both children with disabilities and educators in schools. It is

likely that once pre-service teachers become aware of such resources their concerns about practical aspects of implementing inclusive practices in their classrooms may decline.

The School of Education and Humanities within SINU is keen to strengthen its course on inclusive education in the program in order to better prepare pre-service teachers for the upcoming education reform. While acknowledging that a 28 hour course is insufficient they are required to work within this time frame due to the course only spanning two years in total. In this regard, SINU is aiming to adopt a more focused 3H (head, heart and hands) model of preparing teachers for inclusion that balances cognitive, psychomotor and affective domains across the curriculum. According to Sipos, Battisti and Grimm (2008) this should result in transformative sustainability learning (TSL) that will respond to the need to re-envision education for sustainability, which is a key focus of the UN Decade of Education for Sustainable Development (UNESCO, 2005). Pre-service teachers in the revised program will learn about why inclusion is good and how their beliefs can influence whether or not a student with disability is included or excluded (heart), what skills they need to have to include all children (head), and to be able to practice skills in schools that promote inclusive practices (hands) (Sharma, 2011). It is anticipated that this approach will work towards improving pre-service teachers' attitudes towards including children with disabilities in their classrooms, which in turn will impact on their intention to teach in inclusive classrooms. SINU is aware that the journey to change the existing program is not going to be easy but it has willingness and teacher educators at the university are committed to ensure that in future teachers being prepared at SINU are equipped with head, heart and hands of inclusive teachers.

Initially the focus of the revised teacher education program at SINU was on preparing teachers for inclusive education through the one compulsory course. Following this research which identified the importance of attitudes towards inclusive education as being predictive of intention to include children with disabilities and the noted shortness of time available to expand the current program in this area, there is now a greater emphasis that information about inclusive education and strategies to implement it should additionally be infused into the other core courses that are being delivered at the school. It is hoped that this combined direction utilizing the three pronged psychological approach of head, hand and heart across all curriculum areas will result in better prepared teachers in the Solomon Islands who would be more willing and more effectively equipped to implement inclusive practices.

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Acknowledgement