ICT in Education:
Evaluating the Concerns of the In-Service Students of Fiji National University

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ABSTRACT
In recent times, most of the developing countries have concentrated themselves on evolving with the help of Information and Communication Technologies, Republic of Fiji being one of them. Fiji National University, one of the leading universities in Fiji has been playing a very important role for the development of the country. In this paper, the author has evaluated and analyzed the concerns of the in-service students who are studying in Fiji National University. This paper follows the Concern-Based Adoption Model (CBAM) model to evaluate the stages of concern of 109 in-service students who are pursuing Bachelor of Education degree and also teach in primary and secondary schools in Fiji. The results showed that the in-service students have high concerns on the self-oriented levels. The results also exhibited a pattern between teaching experience of these in-service students and their stages of concern. Based on the analysis of results, the necessary steps have been recommended for the development of ICT in education.

KEYWORDS
CBAM Model, Fiji National University, ICT, Stages of Concern, Technical Education

INTRODUCTION
Owing to the increasing competition in almost all the major fields, the students of this century are now expected to be equipped with better critical thinking and analysis, creative mindset and problem solving skills. As stated by Darling-Hammond (1995), this requirement of students can be fulfilled with the use of technology in education. Since the last two decades, the use of information and communication technologies has played a major part in the education curriculum. Jones and Knezek proposed Information and Communication Technologies (ICT) as a tool to serve as a means of improving efficiency in the educational process in 1993. In 1998, Dede showed that the use of ICT in education helped the students to improve memory, understanding and increased the motivation. Not only ICT can be used as a tool for teaching, but it can also be used to promote collaborative learning which would involve role playing and group projects (Forcheri and Molfino, 2000). The effect of implementation of ICT in education was evidently showed by Waissbluth (2010) when he experimented with the same school, the same group of teachers and the students and obtained far better results when the teachers used ICT for teaching as compared to the conventional teaching methods.

As information and communication technologies continue to make their breakthrough in education, the role of the teachers is going to change. The works of Collins and Quillian (1969), Collins and Loftus (1975) and Semenov (2000) state that it is necessary for the teachers to change their roles with the penetration of ICT in education and gave four major reasons for this change:
A. Change in roles of the teachers will become necessary because the conventional teaching methods and resources will soon become obsolete.

B. The implementation of information and communication technologies will make the some conventional assessment methods redundant. The teachers will have to face the concept of intelligent tutors and online tests which will replace the conventional assessments.

C. In future, the role of teachers will not be limited to impart content knowledge to the students but to provide them better problem skills, to encourage information literacy and provide the collaborative working environment for the students.

D. Teachers must re-evaluate their methods of fulfilling the students learning needs and begin to think about how these methods can be appraised according to the present requirements.

One major issue about ICT in education is how the teachers should adapt themselves, their teaching skills and practices for implementing ICT in education. The changes that may be encountered during the implementation of ICT in education will be comprehensive and will affect the teaching methodology, assessment methods, and communication and evaluation methods. The effects that this change will bring about will be distributed in nature, affecting both, the learners and the teachers crucially. One critical issue that can arise is that the teachers may reject the idea of relinquishing the control to the information and communication technologies. The concept of shared resources, smart classes, online tests and collaborative environment may also be completely rejected by some teachers.

According to Littlejohn in 1999, teachers have been polarized in their acceptance of the new technologies. While there have been teachers who have adapted to technical changes in education very willingly, there are some teachers who have been cautious in accepting it and some have simply rejected this idea of implementing the ICT in education. The Republic of Fiji is one of the developing nations in the world which is trying to accommodate ICT in education for various reasons. This research has been specifically done to identify the concerns that teachers of primary and secondary schools of Fiji are currently facing. This research investigates the relationships between the teacher stages of concern and the critical factor such as experience, age group and gender.

**Fiji School Education System**

The education system in the Republic of Fiji has been divided into primary school, secondary school and higher education. Due to its multi-ethnic culture, the language of instruction is English. The primary school system consists of 8 years of schooling and is attended by children from 6 to 14 years. After the completion of the primary school, students obtain the certificate that makes them eligible for the admission in secondary education. The secondary education is of total five years that consists of Form V, Form VI and Form VII examinations after which the students can plan their higher education.

The revolution brought about by the introduction by the Information and Communication Technologies in educations has affected the traditional teaching system adversely and the Republic of Fiji is no exception. According to William, Kato and Khan (2004), the computer science curriculum for the secondary education in Fiji was first programmed in 1993 but it was implemented in late 1996 as a pilot programme for 10 selected schools. Following the success of the pilot programme, 74 schools adapted this computer science curriculum in their programme by 2002 that increased to 86 in 2004. This CS curriculum mainly aims the students of form V and Form VI and the assessment is done with the help of internal and external assessment.

**Concerns-based Adoption Model and Stages of Concern**

The basis of the Concerns-Based Adoption Model was formed by the extensive works of Frances Fuller who worked on the evaluation of the pre-service teacher concerns in 1960s. As stated by Hall and George (1979), the research works of Fuller on the anxieties of the teachers worked as the platform for identifying the various types of concerns related to both students and in-service teacher’s education. Frances Fuller works stated that both, the teachers and the beginner students...
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