

Evaluation of Computer Science Curriculum in Fiji Secondary Schools

**APPLICATION FOR INFORMATION AND COMMUNICATION
TECHNOLOGIES FOR SOCIO ECONOMIC DEVELOPMENT
RESEARCH (ICT) PROGRAMME**

| | Principal Applicant From USP | Principal Applicant From Partner Agency |
|---------------------|--|---|
| Surname | Dr Williams | Ms Kato |
| Forenames | Esther | Maki |
| Title | Director, Planning and Development | Coordinator, The ICT Capacity Building at USP, Project |
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| Telephone No. | 3212709 | 3212652 |
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| | Co-applicants from USP | Co-applicants From Partner Agency |
|---------------------|---|--------------------------------------|
| Surname | Ms Khan-Malik | |
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| Institution address | The JICA Project USP, PO BOX 1168 Suva Fiji Islands | |
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Evaluation of Computer Science Curriculum in Fiji Secondary Schools

| | | |
|-----------|--|------------------|
| Q1 | <i>Evaluation of Computer Science Curriculum in Fiji schools.</i> | |
| Q2 | Proposed start date (dd/mm/yy): | 23/12/2002 |
| Q3 | Period for which support is sought (in months): | 4 months |
| Q4 | Summary of total costs (in Fijian Dollars): | \$ 15,330 |
| | Staff | \$2400 |
| | Equipment | \$200 |
| | Consultants/Printing/Webpage | \$5450 |
| | Consumables | \$5035 |
| | Travel | \$2245 |
| | TOTAL | \$15,330 |

Please check the last page for detailed budget and explanatory notes.

Q6. OUTLINE OF SCIENTIFIC PROPOSAL

Project Background and justification:

Recent governments in Fiji have acknowledged the potential of IT, not only to provide great opportunities and improve student achievement, but also to create new types of jobs and employment opportunities, increase efficiencies and incentives of commercial businesses, and improve records and knowledge management in government ministries and organizations. The industry needs two types of IT specialist; IT engineers who have graduated from University and IT Technician graduates from Secondary schools. According to the Fiji Trade and Investment Board (FTIB) they plan to have an “IT enabled industry” and therefore strongly require many IT –enabled personnel in Fiji. From an education perspective, in order for students to take up advanced IT engineers’ education in university, they should have basic skill and knowledge in IT, which should be acquired at secondary school level.

In Fiji, the curriculum for computer science for secondary schools was initially developed in 1993, but implemented in 10 schools as a pilot program in 1996. Following the success of the pilot program, 74 schools had implemented the curriculum in their schools by 2002. It is anticipated that 84 schools altogether will teach the curriculum in 2003.

Since its inception in 1996, the curriculum has not been reviewed due largely to various political, resources and development factors. According to the Education Officer in the Technical and Vocational Education and Training section who is fully occupied with supporting teachers in schools that offer computing science as an examinable subject, there is a serious lack of trained IT teachers and computer resources in schools. Teachers provide only basic teaching in IT. Interested stakeholders such as Telecom Fiji, ANZ Bank Limited and others have expressed interest in contributing towards upgrading the standard of computer education in Fiji schools, by inputting into the curriculum, providing computers and setting up pilot programs.

This research attempts to review the CS/IT curriculum on offer in Fiji schools with the aim to expand and make the curriculum relevant responding to the needs of the market and personal needs. The results of the research will feed into the University's computing science program including the Bachelor of Education (Computing Science/IT) program. This research will be a baseline study for USP and a model for replication in other USP member countries.

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Research Questions:

1. What are the challenges faced in teaching and learning computer science (CS) in Fiji schools?
2. Is the present CS curriculum evaluated as adequate by teachers and students?
3. If inadequate, how can the teachers and stakeholders contribute to strengthen it?
4. How can the various stakeholders such as the CS teachers, students, Curriculum Development Unit (CDU), USP and other agencies be teamed to continue regular evaluation of the CS curriculum in future?

Project Objectives:

1. Review and analyze computer science education in Fiji schools.
2. Share the results with teachers, stakeholders and students.
3. Propose recommendations to the Ministry of Education.
4. Set up a webpage for the Ministry of Education concentrating on learning and teaching CS in schools.

Project Beneficiaries:

1. The Ministry of Education and the computer science teachers will be the primary beneficiaries.
2. Students studying computer education in schools, the stakeholders and USP will be the secondary beneficiaries.
3. The ICT Research Fund will also benefit as this research is a pilot project under the Fund to assess and prepare for any problems that may be encountered in future projects.

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Project Sustainability:

This research will become a model for future Computer Science curriculum evaluations by the Ministry of Education, to be conducted periodically. The workshop following the research will propose ways to maintain an identified review process in the future. It is anticipated that a database of relevant information such as computing science enrolment in schools, CS teachers, schools equipment inventory, and area of interest by stakeholders will be initiated by the Education Officer in the Technical and Vocational Education and Training section of Ministry of Education. The Education Officer's research skills as well as others in the Ministry of Education will be strengthened to encourage future evaluations.

The webpage for learning and teaching CS in Fiji schools will be developed under the present ICT Capacity Building @ USP Project website. The webpage will be maintained with the assistance of USP staff, CS Teachers and the Project Research Assistant. It is anticipated that once this webpage has evolved over time, a discussion board, bulletin board and other web pages will be developed and maintained for continual exchange of information on CS in Fiji schools.

Project Methodology:

The primary method is interviews using questionnaires to collect data from students, CS teachers and some stakeholders. The secondary method is (PAR) participatory action research because the researchers would conduct focus group interviews to obtain in-depth information from the stakeholders on their perception of how useful/effective/relevant the present CS curriculum is to the students, teachers and employers and the necessary improvements. Following best practices of research, a symposium would be organized to share results with the stakeholders; to raise awareness on CS curriculum and to formulate recommendations to improve the current CS curricula.

Detailed methodology is as follows:

1. Interview all Computer Science teachers in Fiji schools (presently 84 schools teach CS as an examinable subject). CS Teachers Levuka and Kadavu islands would be couriered questionnaires to reduce costs.
2. Interview at least 300 secondary schools students' from a selected sample of schools, who are presently taking computer science as a subject. At the first stage of sample selection, the schools will be divided into Central, Western and Northern division. 30% of each division's schools will be randomly selected from the 86 schools that are presently teaching CS as an examinable subject.
3. Other stakeholders such as selected government departments, selected commercial businesses and a number of Non-government agencies would be interviewed for their computing science requirement from school leavers. Organizations such as Banks, Telecom Fiji, Courts Fiji Ltd, Rups Fiji Ltd, HomeCentres Fiji, Morris Hedstrom, and governments departments such as the Ministry of Health, the Suva, Lautoka and Labasa Hospitals and similar sectors will be targeted for data collected.
4. Up to six focus group interviews will be conducted in Suva, Lautoka, and Labasa. The focus group would comprise of no more than 15 persons from schools, businesses and other relevant agencies.
5. Visit randomly selected 10 schools to collect infrastructural and facilities information. These schools may not coincide with randomly selection schools for student interviews.
6. Conduct a two day Workshop to share the research results, deliberate on related issues, collect more data and information, and exchange the latest knowledge and skills of computer education in secondary schools. The workshop participants will propose recommendations for possible adoption by the Ministry of Education in the area of Computer Science Education in high schools.
7. Prepare the final report, present to the Minister of Education and the USP. Disseminate as widely as possible, in Fiji and USP member countries.
8. Create a webpage for CS learning and teaching to be maintained by the ICT Capacity Building @ USP Project and volunteers.

Project Timeline:

23rd Dec -10th Jan, 2003

Finish collecting basic information from Ministry of Education and literature review.
Prepare questionnaire.

12th – 14th Jan

Finalize questionnaire, ready for printing/photocopy.

14th – 17th Jan

Complete sample selection and confirm arrangements for visit schedule to conduct interviews.
Recruit field officers.
Conduct a short training for field officers.
Conduct pilot interviews.

20th Jan - 14th Feb

Conduct interviews of agencies and visit relevant sites (20th – 25th)
Suva-Nasinu-Nausori-Navua (27th -31st Jan) includes teachers, students and others
Sigatoka-Nadi (3rd – 4th Feb)
Lautoka-Ba-Tavua (5th – 6th Feb)
Rakiraki-Tailevu (7th Feb)
Labasa-Savusavu (20th – 21st Feb)
3 days unaccounted to allow for any delays in this process.

15th Feb – 10th March

Prepare template for data entry
Data input
Complete analysis
Prepare initial report
Prepare and confirm details for Workshop

22nd – 23rd March

Conduct Workshop

14th – 30th March

Assemble the Workshop proceedings
Prepare detailed minutes
Analyze information from the Workshop

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1st – 31st April

Consolidate into the Final Report
Circulate draft to all Researchers involved for consent
Finalize the Report
Release for printing into hard copies and burning onto CDs
Meet with Minister for Education to present Report

May

Prepare web pages to publish the Final Report on the ICT Research Fund website.
Create other relevant web pages on learning and teaching CS in schools.
Launch the webpage via media; invite a few prominent persons from JICA, USP, MOE and some business representatives.
Request the Ministry of Education to circulate a memo to all schools informing of this web page.

Risk Management:

Difficulty in obtaining basic information in time from the Ministry of Education in Fiji.
To minimize such problems in future, the Principal Researcher will meet with the Permanent Secretary of Education seeking their assistance and collaboration.

Low response rate.

Instead of sending the questionnaires by mail, the field interviewers will visit the interviewees in person as much as possible to encourage higher responses.

Lower participation by Computer Science teachers in the planned workshop

Request cooperation of the schools, Principals and Ministry of Education to encourage higher participation.

Webpage maintenance that will be setup for the Ministry of Education

As the MOE does not have the capacity to perform this task at the moment, the Research Assistant at the ICT Capacity Building @ USP Project will maintain the webpage with the assistance of volunteers until a suitable alternative is found and training undertaken.

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Project Outputs:

- Final report delivered to all computer educators in schools in Fiji, staff in Ministry of Education, USP staff, and Ministry of Education in USP member countries, professional associations.
- Recommendations submitted for comment by professional associations and
- Adoption by the National Committee for CS Curriculum under the Ministry of Education.
- Capacity building of Technical staff of the CDU, Ministry of Education
- Establish a website for the Ministry of Education, on issues relating to learning and teaching computer science in Fiji schools.
- The final report will be published and dissemination widely via the website, CD ROMs and in hard copies.
- This research could become a model of future researches conducted under the ICT Capacity Building @ USP Project. Any limitations will allow the ICT Working Group to minimize similar risks with future researchers.
- This research could become a model for similar evaluations to be conducted in Fiji and/or USP member countries in future.

Project Monitoring:

By February it is anticipated that 80 % of structured interviews using questionnaires, focus group sessions in Lautoka and Labasa, and selected site visitations will be completed.

By end February to early March it is scheduled to complete data analysis and complete the initial report by early March.

By late March the 2 day workshop will be completed and by end of March the qualitative data from the Workshop will be analyzed.

By April the Final report will be published and submitted to the Ministry of Education, Fiji

This will be uploaded on a website for dissemination within Fiji and USP member countries once the report has been received and cleared.

By end of May the CS teaching and learning website will be officially launched.

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Project Originality:

This research will be an original study in the area of curriculum revision within Fiji. Due to limited financial and human resources, most school curricula are revised based on the recommendations of only a small group of teachers and Ministry of Education staff. This is the first time that the methodology for evaluating an existing curriculum will be used. This research will incorporate comments, contributions and recommendations from all computer science teachers in Fiji, selected students and key stakeholders.

Both qualitative and quantitative methods will be utilized to obtain the best possible results for this research. The questionnaires for the teachers, students and agencies will comprise quantitative data. Focus groups would be organized in Suva, Labasa and Lautoka and information collected from the workshop organized in Suva will comprise qualitative data.

For analysis of the data, SPSS will be used, particularly for the quantitative data.

Central issues are:

1. Is the present CS curriculum evaluated as useful by teachers and students?
2. What needs to be changed in the present CS curriculum?
3. Have the students taking CS in school become proficient in computer applications?
4. What are the limitations in students learning?
5. What are the limitations in the teaching computer science curriculum in the secondary schools?
6. How can the standard of CS teaching and learning be upgraded in the rural, poorly endowed and disadvantaged schools?
7. In what areas can the CS teachers be trained to upgrade teachers' skills in teaching CS in schools?
8. How can the stakeholders contribute towards strengthening the delivery of CS in schools?
9. What are the CS and IT skills do school leavers require to meet the needs of potential employers and how can the curriculum be revised to match these needs?

In a creative approach, the final report will be placed in the website to be accessible by all interested stakeholders and members of the public. Additionally, a website will be set up for the Ministry of Education to provide information relevant to learning and teaching CS in schools.

LITERATURE REVIEW

In the 2000 Fiji Islands Commission Report Williams, E.B (2000) writes that ‘the introduction of IT in secondary schools in Fiji is a recent development, and the computing equipment is generally supplied and purchased by school committee funds. The most serious shortcoming cited was the lack of trained IT teachers to teach and provide direction in this growth area. There are currently no plans for formal training of teachers in IT, no scholarships or assistance provided by the government, and no substantive posts allocated for IT teaching. Given this situation, CS and IT training programmes were not treated as priority needs and have developed without formal planning. In 2002, the USP included IT as a key area of development in its strategic plan. Williams adds that in the present Fiji situation, often teachers of other disciplines are requested to teach IT and are encouraged to gain IT skills mostly in their own expense and time. In other situations, new graduates in IT, but without teacher training qualifications and experience, teach IT in the schools they are located. Many tend to, after a short period, find other more attractive employment opportunities and move on and away from teaching.

She further states that without a strategic plan to introduce IT in schools in a more systematic way, progress will be haphazard, unequal and undirected. In an area that is growing exponentially, it will be difficult to control growth unless a more systematic and formal approach is taken and government gives this its full support.

This research will incorporate concerns raised in this paper by Dr Williams: (1) to examine the extent of trained IT teacher shortages; (2) to identify the concerns of the teachers and students in teaching and learning CS in secondary schools; (3) to note suggestions from the teachers and students on how these limitations could be addressed and solutions found; (4) to identify ways that stakeholders such as businesses and government be encouraged to contribute towards a more systematic approach of providing CS education in schools; (5) and to examine ways that the present curriculum could be revised to match the needs of students and potential employers.

In a study by Bagley and Hunter (1992), they concluded that students become empowered and spend more time in active construction of knowledge when using technology as it provides more resources for student use in problem solving, thinking and reflection. Students spend more time collaborating with other students and communicating with teachers when developing technology projects. Many other researchers have proposed that computer based technology can become essential in the learning environment.

In this research, attempts will be made to investigate whether computer science education is given equal priority as other examinable subjects or relegated as an elective taught at adhoc basis.

Another use of technology in schools that exemplifies traditional learning environments includes learning about the technology itself (Jonassen, 1996). Classes in computer programming and computer literacy are designed specifically to teach students how computers work. Students learn specific skills related to using the computer, such as

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keyboarding skills, ethical uses of computers, or a particular programming language, but these skills are tied to other content. These classes were prevalent in the 1980s, but Jonassen observes that this use of technology in this way is now less emphasized in schools. He attributes the change to:

The increasing availability of computers in society that gives students more experience with them outside of schools;

The understanding that one does not have to know how a computer works to take advantage of it as a tool; and

The emphasis on memorizing vocabulary about computers in computer literacy classes, which had little applicability to educational goals of schools.

The research will find out how applicable are the skills learnt in CS classes, particularly in training students for future employment.

Zucchermaglia (1991) states that technology has become an integral part of the classroom learning environment when it is used as a tool to seek and process information, and reflect on one's understandings, beliefs, and thinking processes. Used in this way, technology is "empty" as it allows the learner to enter information and explore new content relationships. Ordinary application software such as word processing, spreadsheet, graphics, presentation, and database software; problem solving software; simulations; electronic mail; and the Internet are technology tools that fit into this category. These applications give the user control of almost everything that happens, including the interaction between the user and the machine. Rather than rote memorization of facts, these applications encourage the accomplishment of creative, higher level tasks.

Means and Olson (1997) found that technology can support teacher's efforts to engage students in long term complex projects by dramatically enhancing students' motivation and self esteem.

When technology is used in support of challenging projects, it in turn can contribute to a learner's sense of authenticity and quality of the task at hand. As Means and Olson (1997) report, "students need to feel that they are using real tools for real purposes." Being able to access the tools that are used by professional for similar tasks allows students to aspire to a level of work and quality of product that more closely reflects what they see and know of the outside world.

E-mail may be used to provide a medium for written communication that is embedded in an authentic context, that of exchanging ideas and information with distant peers or tutors. Either e-mail or word-processing software may be employed to enable students to write for a real audience, such as peers or community members about topics that affect them (Maddux et al., 1997). Having an authentic purpose, context and audience is cited as responsible for improved skills in writing, reading, and critical thinking.

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Technology can serve as a stimulus for change in the role of the teacher and also alter the interaction in the classroom. Learning becomes a public and highly visible activity when using technology. It can support students as they build shared meaning through a collective transformation of their learning experiences (Roschelle, 1996). “In our observations of technology–using classrooms, we saw numerous examples of students acting as peer coaches for each other, offering advice when a peer had trouble Such advice giving was continual when students working individually on computers” (Means and Olson, 1997).

Means and Olson (1995) state that when technology is used as a tool for learning, rather than the object of instructor, it can assist teachers as they strive to

- Uncover students, prior knowledge, understanding and beliefs;
- Tap into student interests and provide increased motivation for learning ;
- Base instruction on the posing of problems;
- Provide a variety of experiences, experimentation, and negotiation of meaning;
- Increase the complexity of the content;
- Take on the role of facilitator;
- Increase the ability of students to test multiple scenarios and thus challenge preconceived notions or misconceptions;
- Increase the authenticity of the content and context; and ,
- Broaden the circle of social interaction to include students’ peers and experts beyond the classroom, the school, the community and even their home country. By Means and Olson (1995),

REFERENCES

Bagley, C., and Hunter, B. (1992). Restructuring constructivism and technology: Forging a new relationship. *Educational Technology*, 32 (7) 22-27.

Jonassen, D.H. (1996). *Computers in the Classroom: Mindtools for Critical Thinking*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

(Maddux, C.D., Johnson, D.L., and Willis, J.W. (1997). *Educational Computing: Learning with Tomorrow's Technologies*, Second Edition. Boston: Allyn and Bacon.

Means, B., and Olson, K. (1995). *Technology's role in education reform: Findings from a national study of innovating schools*. Menlo Park, CA: SRI International.

Means, B., and Olson, K. (1997). *Technology and education reform*: Washington, D.C.: US Department of Education.

(Roschelle, J. (1996). *What should collaborative technology be? A perspective from Dewey and situated learning*. [online] <http://www-cs195.indiana.edu/index.html>

Vockell, E. L., and Schwartz, E. M. (1992). *The Computer in the Classroom* (Second Edition) New York: Mitchell McGraw-Hill.

Williams, B.W. (2000). Information Technology and Distance Education. *Report of the Fiji Islands Education Commission/Panel*, 312-325. Ministry of Education.

Zucchermaglia, C. (1991, May). *Toward a cognitive ergonomics of educational technology*. Paper presented at the NATO Advanced Research Workshop on the design of Constructivist Learning Environments, Leuven, Belgium.

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Q7 CURRICULUM VITAE FOR PRINCIPAL APPLICANT AND EACH COAPPLICANT

Please copy the page and label the copies as Section 7 (i), (ii), (iii), etc. Each page should have the name of the principal applicant at the top. At this stage, only abbreviated CVs should be supplied, using the table below.

| | | | | |
|-----|---|-------------------------------------|--------------|---------------|
| (a) | SURNAME: | Williams | FORENAMES | Esther Batiri |
| (b) | DATE OF BIRTH: | N/A | NATIONALITY: | Fijian |
| (c) | DEGREES, DIPLOMAS etc. (subject, class, university and dates): | | | |
| | 1997: Ph.D in Government. The University of Queensland, Brisbane, Australia 1988: Master of Arts, Victoria University, Wellington, New Zealand 1975: Associate of the Library and Information Association, Australia 1973: Post Graduate Diploma in Librarianship, Canberra College of Advanced Education 1971: Bachelor of Arts (Geography and Anthropology), Victoria University, Wellington, New Zealand 1971: Certificate of Proficiency in Education, Victoria University, Wellington, New Zealand. | | | |
| (d) | CURRENT POST (with dates):University Librarian 1981-; Director Planning and Development 2001-2003 Jan. | | | |
| | Title: | Director Planning and Development | | |
| | Department: | VC's Office | | |
| | Institution: | The University of the South Pacific | | |
| | Date of appointment : | 2.2.74 | | |
| | Source of Funding | | | |
| (e) | PREVIOUS POSTS HELD | | | |
| | (maximum 3 most recent posts with dates, source of funding for salary and country): See above | | | |
| | Director Planning and Development, USP | | | |
| | University Librarian, USP | | | |

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RESEARCHER UNDERTAKEN

(no more than ten which you consider to be the most important. Please give details of funding agency, completion time, name of team members if applicable, and any publications, etc.)

Most recent only listed:

June 2002- July 2003.

The Fijian Psyche: Some educational and Economic Achievements. Self funded.

October 2002 - December 2002.

Pacific Pathways: Digital Libraries and Collections in the South Pacific. Research undertaken for UNESCO. Results published.

Dr Williams is a member of a UNESCO Expert Group developing education programmes and training packages in Information and Communication Technologies. Six courses have been developed and are being piloted in Sri Lanka. It is hoped that these will be introduced in Fiji and the region in 2003.

November 2001 - January 2002

Crossing Borders: Barriers to the use of ICTs by women for distance and flexible learning
Funded by the Commonwealth of Learning. Published.

March 2001

Principal Researcher, Survey of electoral behaviour in Samoa. Head a team of 35 researchers and students

May 2001

Principal Researcher, Survey of electoral studies in Fiji. Head a team of 42 researchers and students.

RECENT PUBLICATIONS

(no more than ten which should be those you consider to be the most important and relevant to this application. Please give citation in full, including title of paper and all authors.)

Dr Williams has published two books and over 30 articles and reports. Listed here are the most recent

Pacific Pathways: Digital Libraries and Collections in the South Pacific: A Report. Samoa: UNESCO, 2002.

Mid-Term Evaluation of the Commonwealth of Learning: A Report. Vancouver: COL, 2002.

(Members of the team: Dr. Geoff Peters, Pro-Vice-Chancellor (Strategy, Planning and Partnerships), the Open University, U.K., Mr. Shell Harvey, former Assistant Deputy Minister, Ministry of Education, Province of British Columbia, Canada (Chair); Ms. Jenny Glennie, Director, South African Institute for Distance Education, South Africa; Professor V.S. Prasad, Vice-Chancellor, Dr. B.R. Ambedkar Open University, India)

Crossing Borders: Barriers to the use of ICTs by women for distance and flexible learning. Vancouver: COL, 2002.

The Challenges of Fijian Education, Information Technology and Distance Education, Teaching Resources and Related Infrastructure, Physical Education and Sport in *Learning Together: Directions for Education in the Fiji Islands*. Suva: Government of Fiji, 2000. (A Report of the Fiji Education Commission including a collection of chapters written by Prof Kazim Bacchus, Prof Royce Sadler, Prof Subramani, Suliana Siwatibau, Dr Eve Coxon. Dr Williams).

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| | | | |
|--|---|--------------|----------|
| (a) SURNAME: | Kato | FORENAMES | Maki |
| (b) DATE OF BIRTH: | N/A | NATIONALITY: | Japanese |
| (c) DEGREES, DIPLOMAS etc. (subject, class, university and dates): | | | |
| Masters in Education, International Education, University of Massachusetts, Sep. 2000 Bachelor in Educational Psychology, Tohoku University, March 1992 | | | |
| (d) CURRENT POST (with dates): | | | |
| Title: | Coordinator/JICA Expert | | |
| Department: | Department of Planning and Development, USP | | |
| Institution: | USP | | |
| Date of appointment and if appropriate, expected termination: | 21 May 2002 – 20 May 2004 | | |
| Source of Funding | JICA | | |
| (e) PREVIOUS POSTS HELD (maximum 3 most recent posts with dates, source of funding for salary and country): | | | |
| JICA Associate Expert, 15 August, 2000. JICA Japan. | | | |

RESEARCHER'S UNDERTAKEN

(no more than ten which you consider to be the most important. Please give details of funding agency, completion time, name of team members if applicable, and any publications, etc.)

1. Feasibility Study for "ICT Capacity Building at USP" Project, JICA funded. June 2002 – June 2003.
2. Feasibility Study for "Scholarship in Myanmar", JICA funded. March – May 2001.
3. Career Development of Key Persons in Asia, funded by JICA. Sep. 2001 – March 2002.
4. Baseline Research for Restructure if JICA Training, JICA. Aug 2000 – March 2001.

RECENT PUBLICATIONS

(no more than ten which should be those you consider to be the most important and relevant to this application. Please give citation in full, including title of paper and all authors.)

Same as above.

Q7 CURRICULUM VITAE FOR PRINCIPAL APPLICANT AND EACH COAPPLICANT

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| | | | | |
|-----|---|--|---------------------|---------|
| (a) | SURNAME: | Khan-Malik | FORENAMES | Natasha |
| (b) | DATE OF BIRTH: | N/A | NATIONALITY: | Fijian |
| (c) | DEGREES, DIPLOMAS etc. (subject, class, university and dates): | | | |
| | Bachelor in Arts – Sociology and Population Studies (1996) | | | |
| | Diploma in Business Studies – Business Accounting (1991) | | | |
| (d) | CURRENT POST (with dates): started 10/11/2002 | | | |
| | Title: | Research Assistant | | |
| | Department: | ICT Capacity Building @ USP Project (under JICA funding) | | |
| | Institution: | USP | | |
| | Date of appointment and if appropriate, expected termination: | 10/11/2002 - 2004 | | |
| | Source of Funding | JICA | | |
| (e) | PREVIOUS POSTS HELD (maximum 3 most recent posts with dates, source of funding for salary and country): | | | |
| | Project Officer – UNFPA 1/9/2001 – 30/9/2002, stationed in Suva. | | | |
| | Research Assistant – FSM 1/6/2001 – 31/8/2001 – in Suva | | | |
| | RESEARCHER’S UNDERTAKEN (no more than ten which you consider to be the most important. Please give details of funding agency, completion time, name of team members if applicable, and any publications, etc.) | | | |
| | Nov 2002 - Completed the analysis for “Adolescent, Male and Female sexuality and reproductive issues in Kiribati” for Dr Kesaia Seniloli at USP. | | | |
| | From Mid 98-May 99 | | | |
| | Some major research undertaken during this period: | | | |
| | The elderly population (funded by USP & MOH Fiji) | | | |
| | Use of Pesticides on Cabbage (funded by SPC & USP) | | | |
| | Consumer attitudes – Red Cow Dairy Products (funded by Punja & Sons Ltd) | | | |
| | Other work undertaken on semi or full freelance basis: | | | |
| | Water and Sewage Infrastructure in the Urban Areas (funded by Asian Development Bank & PWD Fiji) | | | |
| | Urban Resettlement Program (funded by WB & Department of Local Government) | | | |
| | Drug and Substance Abuse (funded by FCOSS) | | | |
| | RECENT PUBLICATIONS (no more than ten which should be those you consider to be the most important and relevant to this application. Please give citation in full, including title of paper and all authors.) | | | |
| | Co-author of “Pacific Literature on Population and Development: an annotated bibliography”. 1997 | | | |

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Budget for Research

Evaluation of the CS Curriculum in Fiji Schools.

| | | |
|---|-----|--------|
| STAFF | | \$2400 |
| ¹ Field Officers (\$150 per week x 8persons x 2weeks) | | |
| EQUIPMENT | | \$200 |
| SPSS Software license from USP to be utilized for data analysis | | |
| TRAVEL | | \$2245 |
| Labasa return (\$235 x 2p) | 470 | |
| Car rental in Vanualevu (\$180 including fuel x 2days) | 360 | |
| ² Within Vitilevu (approx 1500 km x 0.37cents) | 555 | |
| Transportation for field officers (8 x 14days x \$5 per day) | 560 | |
| Travel allowance (12 persons x 5 focus group sessions x \$5) | 300 | |
| CONSUMABLES | | \$5035 |
| Telecommunications | | 800 |
| Phone/fax to set up interview schedule, focus group, and workshop participants | 300 | |
| Final report disseminations (200 x \$2.50) | 500 | |
| Venue Hire (\$100 x 4 sessions outside Suva) (for conduct student and other focus group interviews) | | 400 |
| Per diem | | 3135 |
| ³ Labasa (2days x 2p x \$90) | 360 | |
| Nadi (1days x 5p x \$90) | 450 | |
| Lautoka (1days x 5p x \$90) | 450 | |
| Ba (1days x 5p x \$90) | 450 | |
| ⁴ Workshop participants \$10 x 15p x 3days | 450 | |
| ⁵ Instructors (6 x \$150) | 900 | |
| ⁶ Meal allowance 5p x \$7.50 x 2 meals | 75 | |
| Refreshments | | 1250 |
| Focus group participants (5 sessions x \$50) | 250 | |
| Workshop - tea (\$10 x 20p x 3days) | 600 | |
| - ⁷ dinner (\$20 x 20p) | 400 | |

Evaluation of Computer Science Curriculum in Fiji Secondary Schools

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| CONSULTANTS, PRINTING AND WEBPAGE | \$5450 |
| ⁸ Data input, analysis, initial report | 1700 |
| Preparation of final report | 1000 |
| Printing | 2270 |
| ⁹ Questionnaires (photocopying) (450 x 4 pages x 15 cents) | 270 |
| Hardcopies – (150 copies of approx. 30pgs each @ \$10) | 1500 |
| CDs – (50 copies @ \$10) | 500 |
| ¹⁰ Website setup for Ministry of Education | 480 |
| <u>GRAND TOTAL</u> | <u>\$15,330</u> |

¹ As per USP rates guidelines, a graduate assistant is paid \$150 per week for temporary employment. These 8 Field officers will conduct interviews with teachers, students and other stakeholders.

² As per USP guidelines on rates; for a 1500cc engine, 37cents is paid per kilometer when personal vehicle is used.

³ As per USP guidelines on rates, persons are entitled \$90 per day per diem outside Suva. This per diem includes hotel accommodation and meals. Two persons staying in Labasa for 2 days, their visit will include going outside urban Labasa.

⁴ Approximately \$10 per participant to cover their travel expenses during the 3 day workshop. This is an approximate cost based on government regulation of reimbursement of travel expenses. Participants from Nausori and Navua environs would need more than \$10, and Suva participants may need less than \$10, therefore, the \$10 is a base estimate.

⁵ An estimate of \$150 per session for the Presenter/Instructor at the 3 day workshop, for approximately 6 payable sessions as remaining will be conducted by Project staff.

⁶ This is calculated at USP rate of \$7.50 per meal after 4 hours of normal office hours. During the data collection process in the field, some staff would work during after hours and weekends. We have estimated for a minimum of 10 such meals for at most five staff.

⁷ To host Dinner at the completion of the Workshop to participants.

⁸ To hire data analyst at \$1200 per week for 2 week contract, and hire a person to minute the proceedings of the 3 day Workshop, and compile a report on it for \$500.

⁹ 100 questionnaires for teachers, 50 for other stakeholders, 300 for students.

¹⁰ The webpage will be created by Research Assistant and uploaded by Datec at \$80 per hour x 6 hours work.