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This book is the outcome of an important and highly successful workshop held in the Republic of Palau and attended by educators from 15 Pacific Island countries. The focus of the workshop was the role of technical and vocational education and training (TVET) in the secondary school curriculum.

The workshop was run by the PRIDE Project in collaboration with the UNESCO International Centre for TVET (UNEVOC). The Director of UNEVOC, Dr Rupert Maclean, attended the workshop and gave three keynote addresses that challenged everyone's thinking and opened up new options for the delivery of school-based TVET in the Pacific. His presentations are included as chapters in this book. They provide a comprehensive and up-to-date overview of international developments and directions.

The PRIDE Project also worked in close collaboration with two other regional organisations in planning and delivering the workshop: the Pacific Association of TVET and the Hawai'i-based Pacific Resources for Education and Learning.

The workshop included on-site case studies of TVET programmes in primary and secondary schools in Palau, as well as case studies of programmes in Fiji and Papua New Guinea. These are fully described in this book.

All participants engaged deeply with the ideas and issues raised. At least half of the workshop time was devoted to group work and reporting. The commitment of participants to generating new ideas and directions was impressive, and the outcomes of the group work were truly inspirational. They form the core of this book. In a very real sense, every workshop participant is an author of this book so, essentially, it is a book written by Pacific people for Pacific people. **It is therefore highly relevant to the needs of Pacific students and the schools they attend. It should be an excellent resource for policy development and planning in Ministries of Education.**

The book captures the key themes and ideas of the workshop. It deserves to be widely studied within the Pacific, leading the way forward to a more integrated approach to secondary schooling and beyond.

The book is intended primarily for planners, policy-makers, school principals and teachers involved in the delivery of secondary education throughout the Pacific. Its vision is a new style of Pacific secondary schooling with a holistic curriculum, incorporating both the vocational and the academic, and deeply grounded in local values and wisdom.

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The Role of TVET in Pacific Secondary Schools • *New Visions, New Pathways*

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New Visions, New Pathways

Edited by
Epeli Tokai and Jennie Teasdale

The PRIDE Project
Pacific Education Series No.7
2009

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The core of the book consists of the outcomes of the many group discussions. In a very real sense this is a book written by Pacific people for Pacific people. Issues discussed include building traditional knowledge into TVET curricula, TVET in primary schools, training TVET teachers, and TVET for students with special needs.

The book is intended primarily for planners, policy-makers, school principals and teachers involved in the delivery of secondary education throughout the Pacific. Its vision is a new style of Pacific secondary schooling with a holistic curriculum, incorporating both the vocational and the academic, and deeply grounded in local values and wisdom.

The Role of TVET in Pacific Secondary Schools

New Visions, New Pathways

The PRIDE Project
Institute of Education
University of the South Pacific

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Pacific Education Series No. 7

Institute of Education
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2009

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Preface

This book is the sixth in the Pacific Education Series published by the Institute of Education, University of the South Pacific, which implements the PRIDE Project (Pacific Regional Initiatives for the Delivery of basic Education). Launched in 2004, the Project is funded jointly by the European Union (EU) and the New Zealand Agency for International Development (NZAID). It serves fifteen nations in the Pacific region: Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Republic of the Marshall Islands (RMI), Nauru, Niue, Palau, Papua New Guinea (PNG), Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu. The Project seeks to improve the quality of basic education by helping each country to develop and implement strategic plans, and to strengthen regional capacity to support strategic planning and implementation of basic education.

As part of strengthening regional capacity, the PRIDE Project funded a regional workshop in November 2006 in Palau on the theme 'The role of TVET in Pacific secondary schools: new visions; new pathways'. The aim of the workshop was to provide capacity-building for senior educators by engaging them in the process of reconceptualising vocational education at secondary school level in their own country and in the region. Although the workshop was organised for the 15 PRIDE countries, there were also participants from Guam and the Commonwealth of the Northern Marianas, thanks to the newly forged partnership between PRIDE and Pacific Resources for Education and Learning (PREL).

This book would not have been possible but for the contribution and hard work of many people. We, the PRIDE Project team, would like to acknowledge the participation and input of the participants who were nominated by their countries to attend the workshop. Their experience, commitment and intellectual and professional contributions generated new ideas and knowledge that have made this book a reality.

The PRIDE Project is deeply grateful for the support and commitment of the Palau Ministry of Education and the Minister for Education, the Honourable

Mario Katosang. The Director of Education, Mr Emery Wenty, who is also the PRIDE National Project Coordinator, deserves special thanks for his leadership in the preparatory phase and during the workshop itself. Our sincere thanks go also to the Chief of Research and Evaluation, Mr Raynold Mechol, who assisted with the day-to-day running of the workshop along with the PRIDE team.

We also thank Dr Akhilanand Sharma, Head of the School of Education at the University of the South Pacific, who played the important role of critical friend, providing formative and summative evaluations of the workshop. We are also grateful to the resource people: Dr Rupert Maclean, Director of the UNESCO-UNEVOC Centre in Bonn, and Mr Perive Lene, President of the Pacific Association of Technical and Vocational Education and Training (PATVET). Last but not least, we are deeply grateful to Dr Bob Teasdale, our former Director, for providing leadership and to Jennie Teasdale, who has worked tirelessly in putting this book together.

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Introduction: New Visions, New Pathways

George R. Teasdale

On my first visit to the Republic of Palau in April 2004, I was taken on a tour of Palau High School by Raynold Mechol, one of the senior staff of the Ministry of Education. The Ministry had put the visit right at the top of my agenda and I was curious why it had been given such priority.

Located on the main road in the heart of downtown Koror, the school is typical of many in the Pacific: a mixture of older and newer buildings, a miscellany of architectural styles, grounds that show the wear and tear of constant use—just an ordinary secondary school, or so it seemed to me.

Raynold was a former principal of the school and as we made our way through the grounds he was greeted warmly by staff and students alike. In between these encounters he provided some basic information: 'Students in Palau spend eight years in primary school, four in high school. This is the only government secondary school. It has an enrolment in excess of 800. The four years of high school are compulsory for all students.'

That last statement stopped me in my tracks: 'You say that all of your students go all the way through secondary school? Schooling is compulsory to at least 17 years of age?'

'That's right,' said Raynold, 'But then our curriculum is not typical of other countries in the Pacific.' By this time we had walked towards the back of the compound, where there were several rather ramshackle buildings that did not look like classrooms at all. He took me into one. It seemed more like a workshop for all things mechanical: outboard engines, cars, motor bikes, and so on. Several girls and boys were working on an old car, others on a noisy engine of some kind.

Raynold could sense that he had aroused my curiosity and began to explain: 'All our students are required to enrol in a career academy. In addition to their academic subjects they choose one vocational pathway. These students are doing mechanical engineering…' He took me to the building next door. '… and these are doing construction technology, where they learn the basics of house building and furniture making.'

I stopped to chat with a couple of young women. Each was sanding down a desk in preparation for varnishing. The desks looked most impressive: substantial, well constructed, highly functional. They explained that they had made the desks themselves during the course of the semester and, once they were completed, the students would be taking them home, where they would put them to good use for study and homework.

As the tour continued we stopped at a small shop on the campus to buy ourselves a cold drink. I assumed it to be the usual school tuckshop, run by parents. No way. This was a business venture established by a group of students as part of their practical training for the tourism and hospitality course. They were responsible for everything: marketing, stock control, financial management and sales. We sat on a bench outside and, sipping our drinks, continued our conversation. I was curious: 'What happens with your academically talented students who want to go on to university and study things like law, languages or literature? Are they required to enrol in a career academy?'

Raynold's response was an unequivocal 'Yes!' He went on to explain that academic and vocational studies are not seen as alternatives, but as part of an integrated curriculum: 'The academic and the vocational complement each other. The students who go on to university (in Guam or the USA), take with them a range of practical skills that help them find part-time jobs during their university years, as well as a range of very useful life-skills.'

Just then a couple of teachers came past to buy a drink and I was introduced. They were on their way to classes in one of the career academies. I was surprised to learn that they were not staff of the high school, but lecturers from the Palau Community College, a post-secondary institution. Again, Raynold came to the rescue by explaining that the Community College campus was right next door to the high school, and that staff of the college regularly helped as teachers in the career academies.

In talking with the two college lecturers, I learned that most students graduating from the high school had earned a full semester of credit that they could carry with them if they chose to continue their studies at the college. I was becoming more and more impressed!

But it did not finish there. I also discovered that the Ministry of Education and the Palau Employers Federation had a close working relationship, and that over one hundred employers had agreed to offer vacation employment to students. During the long summer holidays, all students who so wished could gain work experience in their chosen vocation. Most did. The work was full-time, and in 2004 students were paid a weekly income of $50. By the end of high school many had accumulated up to nine months of work experience in their chosen career.

After my tour and further conversations with Raynold and other staff of the Ministry of Education, I was convinced that I had experienced an approach to secondary education that was unique in the Pacific. Indeed, even in my own home country of Australia, I had never encountered a programme as innovative and visionary as the one at Palau High School.

My experience in Palau led me to explore other programmes of school-based TVET[1] in the Pacific. I discovered that Fiji also was making significant progress in this area with a number of innovative programmes, especially in tourism. At a global level there was also increasing interest in the synergies between the academic and the vocational in secondary schools. This was especially apparent in the studies being undertaken by the UNESCO[2] International Centre for TVET (UNEVOC) under the leadership of Dr Rupert Maclean.

The role of TVET in the Pacific

Within the PRIDE[3] Project itself there has been an increasing focus on TVET, largely in response to discussions at Pacifc Islands Forum Secretariat Education Ministers meetings, and at other high level gatherings of educators in the Pacific. One of the key roles of the PRIDE Project is to establish minimum benchmarks, principles and criteria to apply to national strategic education plans. The benchmarks have been developed collaboratively by senior educators from all Pacific Forum countries, and are reviewed and modified regularly.

There are eleven benchmarks, ranked in order of priority by PRIDE national project coordinators. The second benchmark calls for education plans that promote skills for life and work locally, regionally and globally. A key underlying principle is that academic subjects are taught, 'together with life and work preparation skills, within a balanced curriculum framework, to enable students to take their place, with ease and confidence, in their local communities, regional contexts, and the global world' (www.usp.ac.fj/pride). One key indicator that a strategic plan is achieving this benchmark is a clear statement on strategies for the development of life and work preparation skills, including TVET programmes.

The sixth benchmark calls for a holistic approach to education, with effective articulation between each level, including the transition from secondary schooling to TVET. It also calls for articulation between education and the world of work,

1. Technical and vocational education and training
2. United Nations Scientific and Cultural Organisation
3. Pacific Regional Initiatives for the Delivery of basic Education

not only in the context of paid employment but also of self-sufficiency, self-reliance and self-employment. One indicator of a strategic plan achieving this benchmark is evidence of TVET-oriented programmes within the school curriculum. A second indicator is the presence of clear pathways between school and post-school programmes.

In light of the emerging significance of TVET in the Pacific, and the desire of Pacific educators for a more integrated and holistic approach, the PRIDE team recommended to its Steering Committee and the Ministers that TVET be the focus of one of its regional workshops. The recommendation received strong support.

Planning the workshop

During subsequent visits to Palau, I discussed the possibility of holding a PRIDE workshop on the role of TVET in secondary schools, using Palau High School as an on-site case study. The response was extremely positive. I also talked to colleagues in the Fiji Ministry of Education. They too responded with enthusiasm.

In planning the workshop programme, we decided to devote one full day to on-site case studies of TVET provisions in Palau, including visits to Airai Elementary School where pre-vocational programmes were being offered to young children, Palau Secondary School and Palau Community College. The visits to these three institutions are described in Chapter 5. In addition, we invited the two largest countries in the Pacific, Papua New Guinea and Fiji, to showcase their approaches to the delivery of TVET in secondary schools through illustrated PowerPoint presentations. These case studies are presented in Chapters 6 and 7.

Our next step was to consult with Dr Rupert Maclean, with the aim of persuading him to allow UNEVOC to partner PRIDE in offering the workshop. He needed no persuasion! His response was immediate and positive. At the time I approached him, he and John Lauglo had just finished editing a book on the vocationalisation of secondary education (Lauglo & Maclean, 2005). The development of TVET programmes in secondary schools was an area of immediate and quite passionate

interest to him, and he warmly welcomed the opportunity to share the ideas and resources of UNEVOC with Pacific educators.

Dr Maclean travelled from Bonn to attend the workshop. In the midst of his usual busy schedule he was able to spend a full week with us, giving three substantive keynote presentations. These are included as separate chapters in this book. They provide a clear overview of the current status and content of TVET in the secondary curriculum internationally, highlight key world issues and concerns, and foreshadow future directions for the provision of TVET in secondary schools.

A very strong and positive response also came from the Pacific Association of Technical and Vocational Education and Training (PATVET), the regional professional group of TVET educators. We are pleased to include in the book a keynote address, delivered by PATVET President Dr Perive Lene, which focuses on the articulation between secondary and post-secondary TVET programmes.

By the time the workshop took place in November 2006, there was growing interest throughout the Pacific in the role of vocational education in secondary schools, and Ministries/Departments of Education were keen to be involved. It was an exciting workshop, with UNEVOC, Pacific Resources for Education and Learning, PATVET and PRIDE working collaboratively.

The workshop methodology

This was a workshop in the real sense of work. At the heart of the workshop, once keynote presentations had been given and the on-site case studies completed, all participants joined small work groups that reflected deeply and at length on various aspects of the theme. Each group was given a particular issue to explore, a set of questions as a guide, and an expectation that members would come up with new visions and pathways for the development of TVET programmes in Pacific secondary schools.

Groups were advised not to spend too much time reflecting on what had been, or what is, but on what might be. That is, they were asked to explore new ideas

and new directions in light of the case studies they had experienced and the presentations they had heard.

During the preceding three years, staff of the PRIDE Project had evolved an effective process for managing regional workshops in ways that empowered participants and led to productive outcomes. The central feature of each workshop, including this one, was a programme that allocated at least half of the available time to group work and reporting. In the case of the Palau workshop, the groups reported via a PowerPoint presentation and a short written summary.

The commitment of participants to generating new ideas and directions was impressive. Groups met well beyond their allocated times, often late into the evening. On the final two days their presentations were delivered with clarity and conviction. A skilled rapporteur kept detailed written notes on each presentation, and the questions and discussion generated by it.

The eight chapters at the core of this book are based on the group presentations. In a very real sense, each one of the workshop participants is an author of this book. They have all made valuable contributions. Essentially, this is a book written by Pacific people for Pacific people. It is therefore highly relevant to the needs of Pacific students and the schools they attend. It should be an excellent resource for policy development and planning in Ministries/Departments of Education.

As usual with PRIDE Project workshops, we invited a senior academic from the University of the South Pacific to assist as a critical friend. On this occasion the then Head of the School of Education, Dr Akhilanand Sharma, kindly agreed to assist. He made an invaluable contribution, providing an overview at the end of each day, challenging us to focus on key issues and ideas.

Beliefs underlying the workshop

Fundamental to the workshop were two key beliefs. The first was that the planning of TVET in Pacific secondary schools should grow out of the needs and wishes of local communities. For too long, Pacific educators have relied on outsiders,

especially aid donors and consultants from western nations, to decide the content and processes of the school curriculum. There was a strong sense at the Palau workshop that Pacific educators are more than capable of listening to the voices of their own people and developing their own curricula and teaching methods.

The second belief was that TVET programmes in Pacific secondary schools should be built on local knowledge, skills and wisdom, as well as the best ideas and practices of the global world. Young people in the Pacific need to be strong in their own cultures and identities, as well as having the skills and capabilities to join a global workforce.

Emerging metaphors

As with most workshops in the Pacific, several significant metaphors emerged during presentations and discussions. These metaphors helped to convey the essence of our ideas. They added clarity and meaning to our deliberations. Here are three of them:

Head, hands and heart

The secondary school curriculum should engage the mind as well as develop practical skills. Equally importantly in the Pacific is the nurture of the spirit through a curriculum that is grounded in the values and wisdom of the culture.

The master key

Hotel cleaners usually are given a master key that allows them to enter every room.
TVET should become the master key that opens up all potential doors to employment, sustainable livelihoods and self-reliance.

Water through sand

If you tip some water into a bucket of sand it will quickly permeate right through.
In the same way, TVET needs to flow through into every area of the secondary school curriculum.

Outcomes of the workshop

Each of the work groups came up with key recommendations for the development of TVET policy, planning and programmes in Pacific secondary schools. I will try and summarise here what I believe to be the most important ideas arising from the workshop.

Status of TVET: Every Pacific nation should have a policy of vocationalising secondary school programmes for all students. The vocational and the academic should be fully integrated in the curriculum. The vocational should be relevant to the employment needs and opportunities of the nation.

Industry partnerships: Ministries/Departments of Education need to nurture close partnerships with employers, thereby opening up opportunities for student work attachments and internships, and for industry partners to engage with students in the classroom.

Standards: Every Pacific nation needs a clearly articulated qualifications framework managed by a recognised accreditation council.

Student assessment: To ensure effective integration of TVET into the curriculum, a variety of assessment modes should be used to measure student learning outcomes, including formative, summative and diagnostic. There is a particular need to develop competency-based approaches. Reliance on external examinations should be reduced.

Status of TVET teachers: There is an urgent need in the Pacific to raise the status of TVET teachers, especially through the upgrading of qualifications, the establishment of salary parity with other teachers, and the development of effective career pathways.

Training of TVET teachers: A more systematic approach to the pre- and in-service preparation of TVET teachers is needed. Regional cooperation is essential. PATVET could play a strategic role here. As part of their training, all TVET teachers should gain first-hand industry experience.

Traditional knowledge and skills: TVET programmes in secondary schools should draw on the local as well as the global, blending the two in ways that strengthen cultural identity. Community-based learning can be used, the students working alongside older people with traditional skills. The focus should be on broader life skills and livelihoods, as well as specific job preparation. Schools and their communities should work collaboratively.

A holistic approach: By promoting self-sufficiency, self-reliance and self-employment, the TVET curriculum can become part of a truly lifelong approach to learning. Within such a curriculum there is no room for drop-outs. All students are included. Rather than trying to draw alienated students into the school, the school should go out to them, offering mixed-mode programmes at community level.

Students with special needs: Individual career pathways need to be developed for students with special learning needs, based on close collaboration with parents and the local community. Pathways need to be realistic and achievable. Ideally the community will play a significant role in guiding and mentoring students, with older, retired people sharing their knowledge and wisdom in culturally supportive ways.

TVET in primary schools: If we take a truly lifelong approach to learning, there is every reason to begin training in life-skills and livelihoods in the primary school. A culturally grounded approach that integrates academic learning with elements of TVET is fully appropriate in the primary curriculum. This will require community support and participation, and an experiential approach to learning.

Lifelong learning: As noted in the earlier discussion about the PRIDE benchmarks, there needs to be much closer articulation between primary and secondary school, and between secondary school, TVET and the world of work. This articulation can be strengthened by taking a lifelong approach that emphasises the development of life-skills and livelihoods.

Conclusion

In my view, the Palau workshop was one of the most important, and most successful, of all the PRIDE Project regional workshops. All participants engaged deeply with the ideas and issues being discussed. Dr Rupert Maclean's presentations challenged everyone's thinking and opened up new options for the delivery of school-based TVET in the Pacific. The outcomes of the group work were truly inspirational. The on-site case studies in Palau, and the case studies presented by representatives from Fiji and Papua New Guinea, showed just what can be achieved by committed and capable educators.

This book, which so clearly captures the key themes and ideas of the workshop, deserves to be widely studied within the Pacific. I hope it is equally as inspirational as the workshop itself in leading the way forward to a more integrated approach to secondary schooling and beyond. Students in the Pacific have long been trapped in a secondary school curriculum driven by the demands of an external examination system that has emphasised the academic at the expense of other equally important aspects of learning.

The vision of this book is a new style of Pacific secondary schooling with a holistic curriculum incorporating both the vocational and the academic, and deeply grounded in local values and wisdom. Schools should be preparing their young people with the skills and knowledge to walk confidently in a rapidly changing global world. To achieve this goal, students also need a deep grounding in their own cultures, and a strong sense of their identity.

The pathways to achieving this goal will vary from country to country, but in every case they will be responsive to the needs and wishes of local communities as well as national economic and employment priorities. The curriculum should motivate all young people to continue right through their secondary schooling. There can be no dead-end pathways. Rather, educators must ensure that students have a choice of pathways, and flexibility to move between them.

New visions. New pathways. My hope is that this book will inspire Pacific educators to transform their policies and planning for secondary education to ensure that the vocational and the academic are fully integrated in a new curriculum for the twenty-first century.

Reference

Lauglo, Jon and Maclean, Rupert. 2005. *Vocationalisation of secondary education revisited.* UNEVOC.

2

TVET issues, concerns and prospects

Rupert Maclean

Introduction

At whatever point the education system is in any country, technical and vocational education and training (TVET) is the cornerstone. TVET is the key because it facilitates skills development for employability. Unfortunately, however, TVET is regarded as second best to the academic stream and so gets the fewest resources.

Education is seen as the key to development and I believe that TVET is the master key. Over 80% of the world's work requires TVET education. An even larger percentage is needed in some countries to adequately skill their populations. If TVET training is available to all who require it, there will be a reduction in poverty, a movement towards equity and fairness, and disadvantage will diminish.

UNESCO-UNEVOC, the United Nations International Centre for TVET situated in Bonn, Germany, has, as its mission, a commitment to assist all peoples globally to access the vocational education and training they need. Many TVET initiatives are being implemented by UNESCO-UNEVOC, including active measures to cross the digital divide by providing culturally and contextually appropriate on-line courses on special computers to developing countries. This is described in more detail at the end of this chapter.

To expand this discussion about TVET issues, concerns and prospects, this chapter provides background information about TVET as a global issue, examines some key contextual factors and discusses why TVET is so important. An overview of the role and function of UNESCO-UNEVOC concludes the discussion.

Background information

Worldwide, there has been a lack of dialogue between Ministries of Labour and Ministries of Education. UNESCO-UNEVOC saw the need to create a bridge between these two key government departments to develop viable TVET training programmes at the level of secondary school and beyond. The vocationalisation of secondary education became a prime objective. In 1999 the Second International Congress on TVET, held in Seoul, Republic of Korea, took as its theme 'Lifelong learning and training for the world of work in the twenty-first century'. This began the process of bridging the gap. Five years later a conference of TVET technical experts was held in Bonn which carried the issue further by focusing on the theme 'Learning for work, citizenship and sustainability'.

There are many international conventions and declarations which pave the way for the implementation of TVET programmes in secondary schools and for vocationalising the secondary curriculum. These resources can be accessed from UNESCO-UNEVOC. Some are briefly described here.

1. In 2002 UNESCO and the International Labour Organisation examined the issue of technical and vocational education and training for the twenty-first century. Their recommendations focused on the question of how TVET could fit into the secondary school curriculum and how it might be taught.

2. The continuing relevance of the 1996 UNESCO Delors Report should be noted. It is still as fresh and crisp today as when it was written. Its four key pillars:

   Learning to know
   Learning to be
   Learning to do
   Learning to live together

   are all vital considerations for TVET, though 'learning to do' is a particular focus.

   Delors emphasises the three Hs: the education of the HEAD, the HEART and the HAND. All three must be engaged, together with the learner's intellect, if TVET education is to succeed. How Pacific Island nations might establish a holistic TVET framework to achieve this is a challenge.

3. The 2000 Dakar Framework for Action on Education for All (EFA) Goal 3 refers to 'ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes'. This includes education for employability. Education for all will not be achieved unless it prepares learners for employment. To become good citizens, people must have employment. They will be motivated to get skills for employment and there will be a knock-on effect that will see the growth of citizenship.

4. The 2000 Millennium Development Goals are relevant to TVET. Improved employment will have a flow-on effect for the eight development goals that form the centre-point of the new human development paradigm devised to assist countries achieve economic and social development. Reiterating the eight goals should remind us of the role of TVET in achieving them:

   Goal 1: Eradicate extreme poverty and hunger
   Goal 2: Achieve universal primary education
   Goal 3: Promote gender equality and empower women

Goal 4: Reduce child mortality
Goal 5: Improve maternal health
Goal 6: Combat HIV/AIDS
Goal 7: Ensure environmental sustainability
Goal 8: Develop a global partnership for development.

5. The 2002 and 2006 Youth Employment Summits examined educational approaches to empowering youth to face the future with hope and optimism. They were especially concerned with young women and the disadvantaged. In many countries it is the young people who are unemployed. All the energy, the dreams and the visions of young people are lost to that society. I think of Bhutan, where rural youths go to the cities to look for employment, only to find that they lack the employment skills for city jobs. In Kenya, 60% of young people between the age of 15 and 25 are unemployed. It is these young people who are causing social disruption through antisocial, violent behaviour. Without question, TVET can assist in solving these problems.

6. The decade of Education for Sustainable Development was launched in March 2005 with UNESCO as the lead agency. UNEVOC is at the very heart of this push towards sustainable development because it believes that TVET leads directly to employment. It sees TVET as the master key to development. Therefore the implementation of TVET is critically important all over the world.

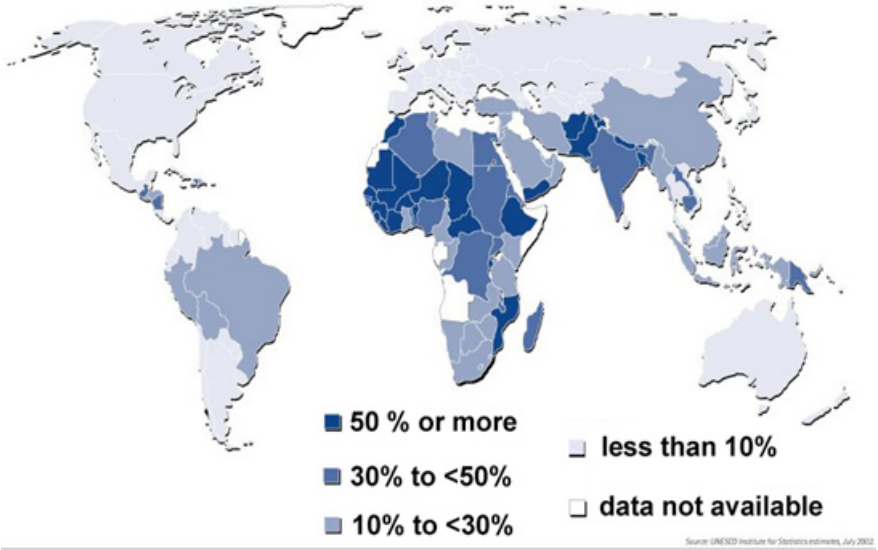
Two key contextual factors

Factor 1: Illiteracy

Is it not appalling that 800 million people across the globe are illiterate? There is little investment in weapons of peace, but billions of dollars are channeled into weapons of war. It is, among many contributing factors, poverty, hopelessness, disempowerment, unemployment and lack of education that are the root causes of war. To achieve education for all, a mere US$11 billion could solve these problems. It seems that the world's leaders have a greater commitment to war than to achieving world peace.

Literacy rates worldwide are difficult to measure accurately. In the broadest terms, literacy means having the skills to read, write and calculate. Figures 1, 2 and 3, taking this definition of literacy, are presented below. We do not, as yet, have an accurate measure for functional literacy, but it must be recognised and measured. In so doing, we must move toward the necessary acceptance of multiple literacies.

Figure 1 World illiteracy rates, 2000



Source: UNESCO Institute for Statistics estimates, July 2002

Some critical factors do emerge from existing figures. Figure 2 clearly shows the gender gap in literacy rates. Obviously boys are favoured in many societies to be the recipients of education. Girls are disadvantaged in some societies where it is believed that their role is to stay at home while their brothers are educated. Some societies dictate this rule, while in others, where families would like to educate both boys and girls, they are so financially impoverished that they cannot afford to pay for the education of all their children. In such circumstances, it is invariably girls who miss out. Figure 3 looks more closely at literacy levels in the East Asia and Pacific region and demonstrates that females are significantly under-represented.

Figure 2 Estimated world illiteracy rates by region and gender

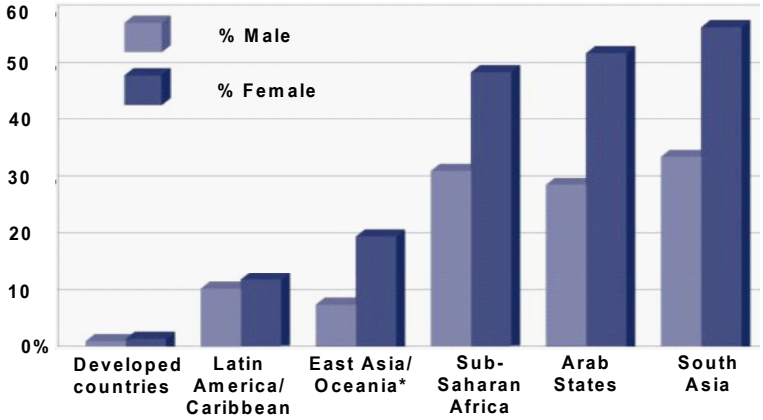
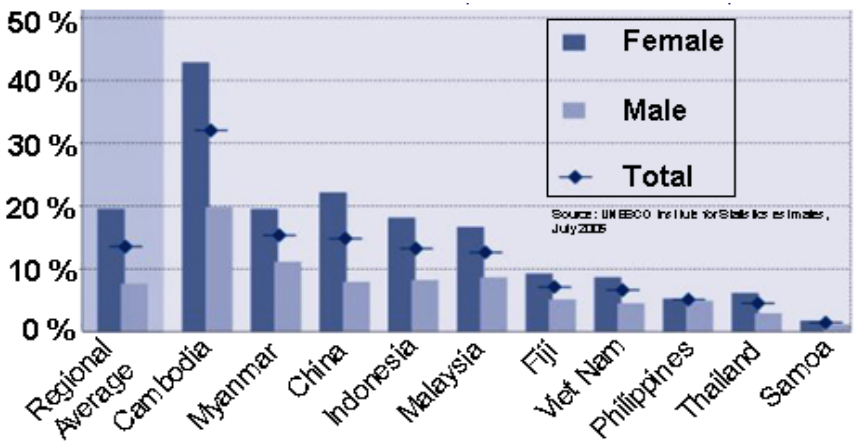


Figure 3 World adult illiteracy rates, 2000 East Asia and the Pacific (selected countries)



Source of Figures 2 and 3: UNESCO Institute for Statistics Estimates, July 2005

Table 1 takes a microscopic look at selected general characteristics of Pacific Island countries that might give some indicators as to why literacy rates in some countries are ahead of others. Is it related directly to GDP?

Table 1 Characteristics of Pacific Island countries, 2004

	Population	Population density	Urban population	Literacy rate*	GDP/ person
	'ooo	people/ km ^{2}	% total	% adult population	US$
Melanesia and East Timor					
Fiji	840	46	52	93	3098
Papua New Guinea	5800	13	13	57	695
Solomon Islands	521	18	17	30	513
Vanuatu	213	17	23	34	1472
East Timor	925	62	8	43	366
Polynesia					
Cook Islands	20	86	70[c]	94	7549[c]
Niue	1.8[b]	6.9[b]	33[b]	95	4364[d]
Samoa	181	65	22	99	2030
Tonga	102	127	34	99	2087
Tuvalu	11	373	...	95	1346[d]
Micronesia					
Kiribati	90	123	49	93	633
Marshal Islands, Rep. of	61	337	67	92	1803
Micronesia, Fed. States of	108	154	30	95	1786
Nauru	10[b]	479[b]	...	95	3500[d]
Palau	21	46	68	91	6350
Income group					
Low income		80	31	61	536
Middle income		44	53	91	2305
Upper middle income		20	72	94	5189

b In 2001. c In 2003. d In 2002. ... Not available

Sources: Asian Development Bank (2005d); World Bank (2006e); Niue Statistics Office

These key facts about literacy in 2005 from the UNESCO Institute for Statistics are disturbing. They offer a significant challenge to Pacific Island educators.

- More than 840 million adults are illiterate worldwide. (74% are women.)
- 71% of the world's illiterates are in Asia and the Pacific. (64% are women.)
- 56% of school age children (6 to 11 years old) in Asia and the Pacific are not enrolled in school.
- 35% of schoolchildren drop out before completing the primary education cycle.

That women and girls are not receiving the same education as males in the Pacific region is of serious concern, as is also the high attrition rate. Rather than dropping out of school, are these students being pushed out by a school system that is not working for them? In other words, are our school systems failing our students, creating educational push-outs? There is a critical need to examine the quality and relevance of the education we offer our secondary students.

Factor 2: Poverty

Defining the nature of poverty is context specific. The UN definition talks in terms of under-nutrition, or not taking in enough calories to sustain life optimally. This may mean that those in poverty simply do not have enough food, or that they have an insufficiency of the range of foods required for a balanced diet, or that they are consuming unhealthy foods through choice or a lack of education about dietary requirements. Poverty here in the Pacific rarely means a shortage of food; the nature of Pacific poverty needs careful contextual analysis so that the problem of poverty can be addressed.

Table 2 gives an incomplete but informative picture of world poverty in the Asian region. It differentiates between rural and urban poverty rates and clearly demonstrates that poverty in rural areas is greater. In presenting these figures, it must be noted that it is extremely difficult to collect accurate data on poverty on a regular basis.

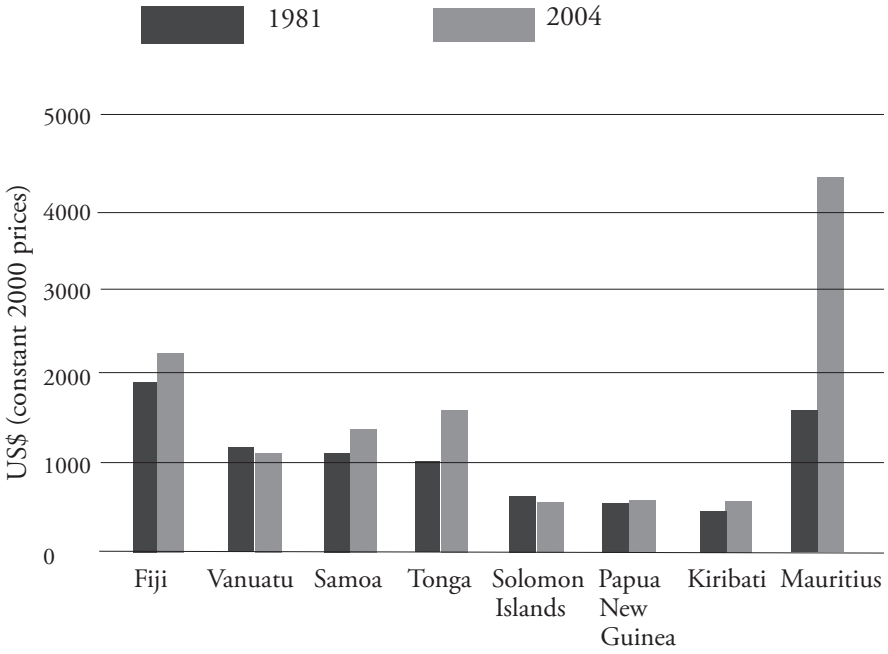
Table 2 Poverty, inequality and human development Southeast and South Asia

	Population in poverty (%) (National poverty line)		
	Total	**Urban**	**Rural**
Cambodia	35.9	25.2	40.0 (1999)
Indonesia	18.2	14.5	21.1 (2002)
Lao PDR	38.6	26.9	41.1 (1997)
Malaysia	8.1	3.8	13.2 (1999)
Myanmar	22.9	23.9	22.4 (1997)
Philippines	34.2	20.4	47.4 (2000)
Thailand	13.1	10.2	15.5 (2000)
Viet Nam	37.4	9.0	44.9 (1998)
Bangladesh	49.8	36.6	53.1 (2000)
India	26.1	23.6	27.1 (1999)
Maldives	43.0	20.0	50.0 (1998)
Nepal	42.0	23.0	44.0 (1996)
Pakistan	32.2	22.4	36.3 (1998)
Sri Lanka	25.2	14.7	27.0 (1995)

Source: Asian Development Bank

Figure 4 shows the changes over time in factors relating to the reduction of poverty in selected Pacific Island countries and Mauritius. The significant leap up in Mauritius is worth closer examination. Why has Mauritius developed so rapidly? It is reported that TVET has caused the transformation. A passionate and dedicated Minister for Education saw a better future for his country if he could provide its population with TVET. This was done and the results are evident in the graph. Mauritius is now able to export their TVET programmes. There is a chance to learn from Mauritius' bold initiative.

Figure 4 GDP per person for selected Pacific Island and Mauritius



Source: based on World Bank (2006e)

These important facts and figures about world poverty should be known:

- 25% of the world's population of 6 billion live in poverty.
- 62% of those in poverty live in Asia.
- the net worth of the ten richest billionaires is $133 billion, more than 1.4 times the total national income of the world's five least developed countries.

Poverty and illiteracy are two major social problems that need to be addressed. Implementing TVET programmes in the education systems of poverty-stricken countries where illiteracy is high can significantly improve the lives of individuals in that country, and of the country as a whole. The Mauritius example is an indicator of what can happen.

Why is TVET important?

TVET is the educational master key that opens a door for any country struggling to survive in this divided world of rich and poor, literate and illiterate. TVET programmes, implemented well, can have the following outcomes:

- poverty alleviation
- equity
- justice and fairness leading to empowerment
- increasing participation rates and reduced school drop-out rates
- knock-on impact: improved levels of housing, health care and standards of living.

What can TVET provide? TVET educational provisions are comprehensive and exciting and include the following:

- apprenticeship training
- technical vocational education
- occupational education
- vocational education and training
- career and technical education
- continuing vocational education and training.

At present, there is a paucity of statistics about the global impact of TVET. There are major gaps in information, a lack of reliability about many figures, and little up-to-date information. The biggest problem is getting accurate measures on TVET in the informal education sector and on-the job training. Currently (2006/07) a UNEVOC/UIS study is being conducted to gather reliable TVET statistics on a global basis. Andy Green and his research team at the University of London's Institute of Education are gathering data.

There is no question about TVET's capacity to alleviate problems of illiteracy and poverty. Here is a convincing example. In Afghanistan, as civil unrest continues, there is a continuing problem in repatriating soldiers, particularly child soldiers. As child soldiers with guns, these children had status and prestige. When their

guns were removed, they had no status or prestige. TVET has given these young soldiers a new sense of direction and worth. They have begun a positive process of rehabilitation.

In China, where the economy is racing forward, where money is flowing and capitalism is being embraced, there is a growing shortage of vocationally skilled workers to service the economy. For this reason, Chinese schools are rapidly vocationalising; they are matching their TVET programmes to the employment needs of their economy to fast-track development.

The role and function of UNESCO-UNEVOC

UNESCO-UNEVOC's vision statement says:

> The UNESCO-UNEVOC International Centre acts as part of the United Nations mandate to promote peace, justice, equity, poverty alleviation, and greater social cohesion. The Centre assists Member States develop policies and practices concerning education for the world of work and skills development for employability and citizenship, to achieve:
>
> - access for all
> - high quality, relevant and effective programmes
> - learning opportunities throughout life. [1]

UNEVOC is basically about peace-building. Its mandate is to alleviate poverty and wipe out illiteracy through technical and vocational education and training. Poverty and illiteracy are root causes of war and so UNEVOC sees education as an integral part of peace-building.

Great importance is placed on developing high quality practices and policies that are contextually appropriate, and of relevance to the country. If this is ignored, people will relapse into illiteracy.

1. http://unevoc.unesco.org

UNESCO-UNEVOC is committed to strengthening and upgrading the TVET sector globally and specifically in its member nations. It is also intent on improving access to TVET, achieving quality assurance, improving relevance, and improving efficiency, both internally and externally.

In its developmental work, UNESCO-UNEVOC places emphasis on assisting least developed and developing countries, countries in transition and countries in a post-conflict situation. There are 191 member states and all either 'give' or 'receive' to further UNESCO-UNEVOC's mission.

Emphasis is also placed on meeting the needs of the most vulnerable groups in society. These include youth, girls and women, lower socio-economic groups, those living in remote areas, and people with disabilities.

Tools used to disseminate TVET information

Tools used by the UNESCO-UNEVOC International Centre to achieve its aims are networking, knowledge-sharing and publications, advisory services, training and human resource development, and interagency collaboration and partnerships. Each of these is described below.

Networking

UNEVOC has its own network of individuals and technical and vocational institutions world-wide. Pacific Island vocational educators and institutions are warmly invited to join this expanding network. As part of the network, there is an E-Forum and an E-Circular and, as from 2005, an Inter-agency Consultative Group on TVET. Pacific Island contributions would be valued.

Knowledge-sharing and publications

A UNESCO-UNEVOC Bulletin and the UNEVOC Forum are print versions that share valuable information on TVET. The UNEVOC *International Handbook* and a book series on TVET are available, as well as discussion papers on TVET. Annotated bibliographies on innovations and best practices in TVET can be consulted. UNESCO-UNEVOC also functions as a clearing-house for TVET

publications and knowledge sharing. More information on these publications is available on the UNESCO-UNEVOC website: http://www.unevoc.unesco.org. Note that all publications are available in English.

Advisory services

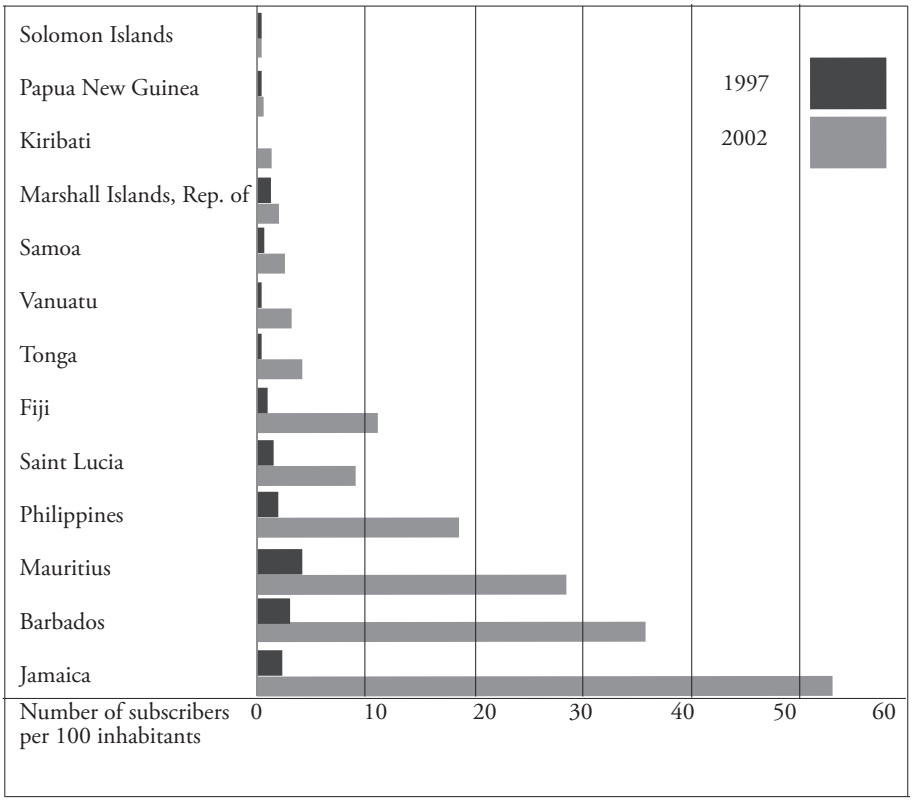
UNESCO-UNEVOC staff offer advisory services to help member states strengthen and upgrade their systems of TVET. The UNEVOC network is extensive and, through its TVET professionals in 126 countries and 25 supporting NGOs, is able to offer support through its E-Forum.

Currently, UNEVOC has eight major sub-regions: Southern Africa; West Africa; Arab States; Central Asian Republics; South, East and SE Asia; Pacific countries; Eastern Europe; and Latin America and the Caribbean. In each of these sub-regions many innovative and transferable TVET initiatives are taking place. UNESCO-UNEVOC has documented these initiatives to allow other member countries to access information that could be of value to them in shaping their TVET programmes. This information can be readily accessed through the UNESCO-UNEVOC advisory services on-line or through hard copies.

The UNEVOC network in the Pacific includes 14 member countries: Australia (four centres), Cook Islands, Fiji (two centres), Marshall Islands, Nauru, New Zealand (two centres), Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu. Only the Federated States of Micronesia is not a member.

By accessing the UNESCO-UNEVOC advisory services through its website, countries can learn about best practices and innovations in TVET around the world. For example, TVET educators in Brazil found that parents were not happy with TVET in the final secondary school year. Using the UNESCO-UNEVOC advisory services, they were able to constructively address their problem.

Figure 5 Mobile telephony in the Pacific (mainly low and stagnant) and elsewhere (rising rapidly)



We are keen to get more Pacific members and more centres in each country. We encourage Pacific Island countries to register through our E-Forum. We recognise that not all Pacific countries have easy access to electronic communication and welcome members through whatever communication means are used in those countries. The telecommunications revolution has been slow to come to the Pacific as Figure 5 shows. This lag is being addressed and Pacific Islanders will have access to a wider range of electronic technology.

Training and human resource development

UNESCO-UNEVOC regards training and human resource development to support the network of UNEVOC Centres as a high priority. Mobile training teams are available to go to countries to advise and to offer TVET programmes as required. Additionally, attachments, fellowships and internships are supported. Arrangements can be made to send TVET country representatives to other member countries to learn from initiatives there. Small grants, up to US$10,000, are available as seed grants for in-country TVET projects. Seed money recipients are required to write-up their project so that it can be shared with other member countries. Workshops, conferences and seminars are also conducted by UNESCO-UNEVOC. For example, quite recently a conference was conducted in Vietnam to examine in-depth the question of how TVET can contribute to sustainable development in Vietnam.

Inter-agency collaboration and partnerships

Creating synergies or resonances between agencies and partners has been an effective way of sharing TVET knowledge and initiatives. UNESCO-UNEVOC closely collaborates with UNESCO Paris, its Field Offices and Institutes worldwide. The International Labour Office in Geneva, Turin and the Inter-American Centre for Knowledge Development in Vocational Training are further examples of agencies that work closely with UNESCO-UNEVOC, as do the European Training Foundation in Turin and the European Centre for the Development of Vocational Training in Thessalonika, Greece.

Partnerships with the European Commission, the World Health Organisation, the Food and Agricultural Organisation, Development Banks such as the Asian Development Bank, the World Bank and UNICEF are examples of productive partnerships worldwide.

Conclusion

Initially, it is essential to convince all stakeholders that TVET is for all who want to access it. People should not be excluded from TVET because of age, education, gender, socio-economic status, disability or any other factor. To achieve this end,

TVET needs to be strengthened to ensure that high-quality, lifelong learning opportunities are available to all.

TVET for All

UNESCO-UNEVOC advocates that all TVET programmes must be gender sensitive and inclusive. The existing gender bias toward males must be addressed so that the under-representation of females in TVET is eliminated. Real equality must be achieved through equal access and opportunity—and training that leads to productive employment.

TVET that is gender sensitive and inclusive

TVET that is innovative is essential. Each country has its own unique contexts that must be considered when TVET training is implemented. Adaptation and the shaping of TVET programmes to the social context will include bridging the digital divide, providing lifelong learning opportunities, getting communities involved and offering open learning.

TVET that is innovative

Networking is an integral part of creating a strong TVET sector. UNEVOC has a strong international network that connects more than 220 UNEVOC centres and over 150 member states. By activating and sustaining interaction and connection between all associated agencies and partners, UNESCO-UNEVOC consistently ensures optimal outcomes by creating and sustaining TVET that involves networking. More Pacific Island countries and TVET institutions in those countries are needed to strengthen the existing global network.

TVET that involves networking

Currently, we are in the midst of a declared UN decade focused on education for sustainable development. In response to this, UNEVOC is committed to creating

TVET for sustainable development. So TVET, as supported by UNEVOC, is facilitating programmes that provide learning for work, learning for citizenship and learning for sustainability.

TVET for sustainable development

In my introduction, I described UNESCO-UNEVOC's commitment to bridge the digital divide.

The computer shown here is a remarkable computer which was specially produced for use in the harsh and less affluent conditions often experienced in developing countries. It is not affected by humidity and is extremely sturdy and so not easily damaged. It costs less than US$100. This functional, wind-up computer is already minimising the digital divide in some of the world's least developed countries. We have talked about TVET global issues and concerns but it is computers such as these that help us to think positively about the opportunities and prospects available to the people of the world, including the Pacific Island nations represented at this workshop.

3

The importance of secondary education and TVET

Rupert Maclean

Introduction

The UNESCO mandate of Education for All is not confined to primary education alone. Secondary education is also vitally important. All children should have access to a basic education that equips them to function effectively in life. TVET offered at the secondary school level can be the tool to enable students to function effectively in life. It is important, therefore, to include at least the junior secondary years when we talk of basic education.

Taking a worldwide view, secondary education is regarded as the weakest link in the education chain; primary education is strong and tertiary education is effective, but the bridge between the two, that is secondary education, lacks overall coherence and is seen by many to be too academic. The curriculum content in secondary education needs review and reconstruction. There is widespread agreement that there is a need for a fundamental re-thinking of the role and place of secondary education and that TVET must be a vital part of that reform.

Secondary education is a priority and must be seen as valuable in its own right. Adolescence is a critical time for young people; their education must offer them the best and prepare them for the world of work through TVET. Education planners must go back to the basics of secondary education and not be content with the attitude that we do things as we do because we have always done them that way.

Re-visiting the Delors Report

Though published in 1996, *Learning: the Treasure Within*, the UNESCO Delors Report, has enduring relevance. Its philosophy of education is to engage 'the head, the heart and the hands' of every student. Let us review some of the Report's critical comments on secondary education.

Three quotations from page 125:

> Many of the hopes and criticisms aroused by formal systems seem to focus on secondary education. On the one hand, it is often regarded as the gateway to social and economic advancement. It is accused, on the other hand, of being too inegalitarian and not sufficiently open to the outside world and, generally, failing to prepare adolescents not only for higher education, but also for the world of work. It is also argued that the subjects taught are irrelevant and that not enough attention is paid to the acquisition of attitudes and values.
>
> ...
>
> It is now generally recognised that, for economic growth to take place, a high proportion of the population has to have received secondary education.
>
> ...
>
> The view of learning as a process that continues throughout life leads us to reconsider both the content and organisation of secondary education. The requirements of the labour market create a pressure [whereby] the number of years of schooling tends to increase.

One quotation from page 26:

> Secondary education can be linked in the context of lifelong learning to three major principles: diversity of courses, increased emphasis on the alternating of study and professional or social work, and attempts to improve the quality and relevance.

These quotations highlight the importance of secondary education as a means of preparing students for employment. They also stress the need for flexibility within the secondary system that allows and even encourages students to move between the workforce and secondary schooling. There needs to be the opportunity for people of all ages to work and then come back to study to enable them to change vocation or learn more about their current vocation. Unfortunately, there is a certain stigma attached to this in some countries. In Germany, however, there is a flexibility in learning pathways, with 70% of students undertaking some TVET in secondary schools and an ease of movement between university studies and TVET courses offered in technical and vocational institutions.

The importance of work, and education for the world of work

Generally, where one works is seen as important, particularly in the developed world. It 'puts one on the map' and provides status. People who work in the TVET sphere are generally regarded as having a relatively lower status and those with university education as having a higher socio-economic status in the community. There is a notion that TVET is a second choice educational pathway. How then do we improve the status of TVET? How can TVET be professionalised?

The community needs to be convinced of the importance of TVET as a provider of:

- life skills for employment and citizenship
- initiative and self-sufficiency
- self-employment.

The bridge between school and work needs to be improved and the opportunities for TVET to be a vital part of non-formal as well as formal education needs examination.

UNESCO-UNEVOC is working hard to professionalise TVET and to change community attitudes. Many papers, information kits and other publications have been produced to achieve this end. The paper by Canadian educationist and TVET expert David Wilson in *Prospects: the UNESCO Quarterly Review of Comparative Education Volume 31(1) March 2001* on the reform of TVET for a changing world of work is particularly relevant and important. The UNESVO-UNEVOC UNIP project should also be reviewed on the web.

It is interesting to note that the World Bank initially turned its back on UNESCO, but now the tide has turned as it realises that TVET can and has already had an important economic impact. It noted that TVET has the lowest drop-out rate and can be successfully integrated into the primary, secondary and tertiary educational sectors with positive results. The World Bank is now supportive of UNESCO-UNEVOC's initiatives in TVET.

Key issues and concerns: secondary education and its vocationalisation

Of prime importance to secondary education is the need for all teachers to focus not only on teaching, but also on learners and learning. There must be a re-thinking and a re-emphasis on learning. Teachers should be demand-driven and should constantly ask themselves: Is my course useful to the learners?

UNESCO-UNEVOC has raised some key issues and concerns that relate directly to secondary education and the vocationalisation of secondary education. These are issues and concerns that confront educators globally. It is important for key TVET educators in the Pacific to ask just what is relevant for the Pacific.

Issue 1: Secondary education for all?

We advocate that secondary education, at least to the level of junior secondary, be part of UNESCO's mandate of Education for All. Worldwide, secondary

education is the fastest growing formal education sector, and there is an increasing emphasis on TVET in the secondary sector in UNESCO member states, the G8 countries, as well as in developing countries. Vocational education can, however, be introduced at the primary level, where it can act like water on sand, wetting the sand but not changing the nature of the sand. At both primary and secondary level, TVET can be integrated across the curriculum.

The world of work is a reality for most adults and their identity is largely determined by their employment. Currently, only some parents have vocational aspirations for their children and want positive opportunities for their children in secondary schooling. Unfortunately, however, the majority of parents seem to prefer the academic possibilities that lead to university and see TVET options as second-rate. Raising the profile of TVET-related work and informing students of vocational possibilities can and should happen throughout every level of a child's education in order to prepare them for this reality.

Issue 2: Reducing drop-out and repeater rates

Research has shown that students involved in TVET courses at secondary level have far lower drop-out and repeater rates than students in the purely academic stream. However, the challenge is much broader than curriculum choice. It relates to the internal efficiency of education systems, how smoothly they function and how well they serve and support the student learner. In addition, secondary education must be made to look more attractive in terms of relevance and teaching methodology. Curriculum reform is a matter of urgency. Assessment methods need to be reviewed and reformed and made less threatening. Fewer formal examinations and more practical, formative, enjoyable ways of assessing students should be seriously considered. The application of appropriate ICT should be a priority. In order to achieve these goals, teachers will need appropriate training, both in-service and pre-service. In many countries this will require a reform of teacher education.

Supporting students who are financially challenged would also assist many students whose families simply cannot afford the fees, material resources and numerous other hidden costs to enable them to complete secondary education.

Issue 3: Equity of access

Unquestionably, equal access for all, regardless of gender, socio-economic background, race, ethnicity, geographical location or any other reason, is a right. Secondary education, particularly TVET, is a right, not a privilege. Without this equality of opportunity, equity will be denied.

Globally, girls are disadvantaged, with male students and teachers far outnumbering females, especially in the TVET sector. The problem of sex role stereotyping also disadvantages girls and women. It is vitally important that girls as well as boys are offered a high quality TVET education.

Accommodating those with special needs, whether they be physical, sensory or social disabilities is a particular challenge. Currently these students are under-represented in the TVET sector.

Geographical remoteness is a particular problem for TVET providers worldwide. It is also a concern for Pacific Islanders where student populations are scattered across thousands of small remote islands. Transport connections to these locations are often sporadic.

Issue 4: Quality assurance

In the past there has been an emphasis on access for all. This expansion should not be at the expense of the quality of programmes. Access and quality are different sides of the same coin.

Constant monitoring and evaluation of programmes is important from the macro (systems) level through to that of the micro (individual classroom) level to maintain quality assurance throughout the TVET system. Teacher quality and effectiveness must be measured and strategies devised to ensure that teachers are delivering quality programmes. Teachers should be researchers, using action research to monitor student achievement. They need to be constantly asking why students are achieving and why they are not achieving, and adjusting programmes to ensure optimal achievement by all students. So the teaching/learning process becomes a constant work in progress.

Issue 5: The importance of good teachers

The Delors Report says: 'Good schools require good teachers'. Teachers are the corner-stone of educational development. I recall a teacher in the Maldives who had no equipment—just earth, sand, sticks and stones. And yet he was an inspiring teacher, achieving remarkable educational outcomes with his students through his excellent teaching and his ability to nurture true learning in them.

The status of TVET teachers is lower than that of teachers in the academic stream. How can this discrepancy be addressed? How can we recruit the most talented and appropriate individuals into TVET teaching? German educators have solved this problem in part by employing teachers who work for three days a week in industry and teach the other two days. They are experts in their field and have the advantage of being in immediate touch with industry. This arrangement also alleviates the financial problem that occurs in many TVET providers.

Interestingly, in Buddhist societies where parents, teachers and monks are most highly respected, TVET educators do not have a status problem. Using parents and the community more widely to assist professional teachers in delivering TVET programmes is also a positive way forward.

Issue 6: Improving the relevance and effectiveness of the content of secondary education

There is too much emphasis on the rear-vision approach to curriculum content. To explain this analogy: if we drive a car, we look in the rear-vision mirror to assess what traffic is behind, but at the same time we concentrate on looking ahead through the front windscreen to anticipate and direct our driving. In teaching, there is a tendency to look most frequently through the rear-vision mirror. Teachers need to be more forward looking, doing away with past prejudices and engaging with modern technologies and using the best of what globalisation can offer.

Curricula should be updated and enriched on a regular basis to reflect the changing needs of individuals, their communities and society. They should be constructed in the light of globalisation and access both existing and emerging knowledge societies.

There must be an improvement in the bridge between education and the world of work. To facilitate this connection, students will need enterprise and entrepreneurship education, as well as more comprehensive career guidance. The vocationalisation of secondary education is a challenge that must be acted upon as a matter of urgency.

Issue 7: Utilising the most effective modalities for delivery

The way secondary education is taught is not always optimal. Conventional schooling, often based on a chalk and talk methodology, has its place but it must be supplemented with a variety of other approaches that engage the learner in a more interactive way.

Approaches that reach out into the community and engage with students who have so far not been able to access secondary education must be employed. For example, low-income students and those in remote areas should be able to undertake secondary studies as readily as those who do not have these disadvantages. Providers must think laterally and use TVET approaches that range across formal, non-formal and informal modes to reach all students.

Issue 8: Effectively harnessing existing and new information and communication technology (ITC)

ICT is for all, not just for developed countries. The challenge is to use the internet, computers and satellite communications in cost-effective ways. UNESCO-UNIVOC is constantly seeking ways to assist disadvantaged communities to access ICTs. For example, a remote village in Bangladesh has been equipped with a shared satellite phone and a Botswana village has been given a computer through which students can log on and undertake distance learning. In the south of Africa, even the poorest countries can share TVET best practices via ICT.

Issue 9: Financial considerations

The cost of secondary education exceeds that of primary education. TVET at the secondary level is more expensive than general secondary education. So how can TVET at the secondary level be adequately funded? There needs to be a move

away from the current thinking that the TVET provider is responsible for the provision of all the heavy, expensive equipment for every vocational course they offer. A vital step forward is to establish closer partnerships with industry. After all, it is those very industries that TVET programmes are geared toward. These industries require the graduates of TVET programmes as their workforce. If TVET providers can establish close relationships with companies within a particular industry, advantages will accrue to both partners. Companies can provide on-the-job training and industry experts can deliver training in schools and colleges. In addition, companies may be willing to supply tax-free equipment to trainers to facilitate learning for their future employees. This arrangement ensures that up-to-date equipment and techniques are being delivered to students, thereby benefiting both partners.

Approaches to including TVET in secondary schools

There are several approaches to including TVET in secondary schools. One approach is to have separate secondary schools for the academic, agricultural and TVET curriculum, and students choose which they want to attend. Another approach is to have two streams within the one school, so students can choose either an academic or a TVET stream. A third approach is to offer selected TVET subjects that can be taken by any student. For example, a school may offer woodwork, metalwork or home economics as vocational courses. In the past, these courses were very gender-specific but, today, most schools encourage both girls and boys to take these subjects.

Perhaps the preferred approach is the vocationalisation of the secondary school curriculum so that skills development for the world of work permeates the entire curriculum. In this model, TVET is integrated across all subjects and all students are prepared for the world of work. This is the *water through sand* approach referred to earlier. Students will learn not only a variety of vocational skills, but will also begin to understand the value of work, work ethics, the importance of tolerance and harmony in the workplace and the reasons for punctuality.

These models of how TVET can be included in the secondary school curriculum are not exhaustive. Several of them may exist side by side and new ones will emerge.

Success stories

In my UNESCO-UNEVOC work I am constantly encountering TVET success stories across the globe. In Manila, for example, many people ride bicycles. Street children have been given seed funding to start a bike-mending enterprise. These children work together to mend bikes and, in so doing, learn new skills, experience the dignity and value of work and have a livelihood that allows them to pay for food and shelter. Literacy and numeracy skills are an important by-product. This non-formal approach is making a significant contribution to a disenfranchised segment of Philippine society.

In the Guangzhou Province of China, there is now an emphasis on the education and valuing of young women. Formerly, boys were the only children given a significant education because they were seen as *the pillars that hold up a house* whereas it was not thought cost-effective to educate girls. After all, they would marry and leave the family so expenditure on their education was lost.

In Bangladesh, women and men are given a small loan to start a micro-business. Many women choose to buy a sewing machine to start a clothes-making cottage industry. This scheme has been hugely successful, with 98% of the women repaying the loan and forming viable small businesses. In this instance it has been found that women are more reliable at utilising the loan, largely because they think in terms of providing for their families, not just for themselves.

Conclusion

This chapter has touched on many issues and challenges that are important for the inclusion of TVET in secondary education. It cannot be stressed strongly enough that secondary school education should be the right of every child. Equally important is the need for all students to have access to TVET in their years at secondary school. Reform in the current secondary education sector is necessary if these goals are to be achieved. Policy-makers and educators across the globe need to engage in a re-engineering process that transforms the secondary school into a place where the curriculum is vocationalised and where every student has an equal opportunity to prepare for the world of work.

4

TVET articulation between secondary and post-secondary education

Perive Tanuvasa Lene

Introduction

The Pacific Association of Technical and Vocational Education and Training (PATVET) was established in 2002. Its aim is to encourage development of the regional TVET sector through closer collaboration. Since March 2006, a secretariat for PATVET has been hosted by the Secretariat of the Pacific Community (SPC), through its Community Education Training Centre in Fiji. PATVET is a member-based organisation that draws together senior TVET providers with industry and government representatives from twelve Pacific nations. PATVET members are included in the UNEVOC international network on international TVET information and development. We have also been invited to UNEVOC regional workshops and, similarly, PATVET invited a UNEVOC representative to its annual meeting in 2003.

During a consultation meeting hosted by SPC in February 2005, PATVET members and stakeholders recorded one of its key outcomes as a recognition that TVET was no longer an alternative form of education but an integral part of the total education process in Pacific Island countries. This outcome supported the 2001 Forum Ministers Basic Education Action Plan that recognises the importance of TVET and recommends that it be included as a priority in the national plans of each country. The plan directed Pacific Island educators and policy-makers to raise the status of TVET in their national policies. The Pacific Plan produced by Forum Leaders also supported TVET development.

Another current regional issue that should be considered is how the introduction and delivery of TVET programmes in secondary schools can assist future generations in regional labour mobility. The setting up of the Australia Pacific Technical College, announced by the Australian Government in July 2007, is an excellent example of how important is the preparation of students right from secondary school level to ensure that they can meet the entry requirements set to Australian standards at tertiary level.

This chapter looks at the theme of the book from a Pacific perspective. It demonstrates how TVET providers in the region can assist by working with secondary schools to build and strengthen TVET programmes at national and regional levels.

Background

The development of TVET in the Pacific has undergone a lot of changes in the past decade. This is due mainly to the increase in population and the need to have education and training as a major means of preparing people for employment. In most island nations, education is becoming more and more a priority in government economic strategies. The development and implementation of TVET programmes are very important. TVET provides skills training for young students, as well as the working population wanting to attain higher skills and competencies, thereby supporting global initiatives such as Education For All, Second Chance Education, Life Long Learning and Equity Education. In addition, TVET development helps industries and communities keep abreast of the fast changing technologies.

Of the total number of students in the region attending secondary school, approximately 35% make it to year twelve and/or thirteen to prepare for tertiary education. The other 65% either drop out of secondary schooling at year ten or earlier, or cannot get places in further studies programmes due to limited intake. If they fail to get employment, they become totally dependent on their families and communities. This unskilled, unemployed population is increasing at an alarming rate across the Pacific.

The number of secondary schools offering TVET varies from country to country, depending on the national education system they have. Courses offered are mainly associated with industrial arts subjects. Overall, the level of TVET skills students gain at secondary school is either very limited or non-existent. As entry requirements at regional universities for academic studies can only accommodate the top level students from secondary school, the opportunities and vacancies available in TVET programmes are insufficient to meet the increasing demand for places.

Current issues and challenges

The experiences of TVET providers at post-secondary level are that students who have completed secondary schooling or who drop out of secondary schools at different levels to undertake TVET courses have only a very limited idea (or no idea at all) what course or programme they would like to take. Even when potential TVET students express a wish to enrol in a particular training programme, they need a lot of help to get started. Bridging the gap between secondary education and TVET programmes is a significant challenge. It has always been a challenge for TVET providers trying to bridge any gaps during the first semester before students can start with the formal programme. National debates on these issues have been going on for a number of years. Tertiary institutions blame secondary schools, and secondary schools blame primary schools.

Another important issue that should be considered as a priority is the increasing number of school drop-outs and push-outs. These young people may become involved in drugs, crime or other anti-social behaviour and have a negative

impact on society. Perhaps one of the main reasons for this is the low level of self-confidence and the low self-esteem that these students acquire as they follow educational pathways through primary and secondary school. This could be due to the limited number of options for students who cannot make it to the senior secondary or tertiary level; options that will assure them of a career.

Equipment and resources required for the implementation of TVET programmes to appropriate standards are costly. Most Pacific Island nations do not have the financial, material or human resources to strengthen their TVET sectors to meet the demand. This is another contributing factor to the non-availability of TVET courses as options in most institutions. Perhaps Pacific TVET providers should look for ways to utilise and share basic resources that are available locally, instead of relying on expensive equipment.

Human resources, that is, the trainers who deliver TVET programmes, are very important as their skills will make a big difference to the outcomes of the courses. Trainers should be properly trained in modern methods so students will be motivated to learn. This particularly applies to the TVET programmes in areas of common interest to all students, such as computer science and other courses requiring the latest technological expertise. These TVET programmes are in big demand at national and regional levels. Graduating TVET students need the technological expertise to perform locally, nationally and globally.

Some countries in the region have already developed close cooperation between the different levels in their formal education systems. They have worked towards developing and including TVET programmes in the primary sector but more so in the secondary school curriculum. Others are still in the process of doing this. There is a need for all institutions, from primary to secondary to post-secondary, to cooperate in the introduction and inclusion of TVET programmes across all sectors of the education system on a national and regional level.

TVET programmes offered in secondary schools

In most countries in the region, optional TVET subjects such as agricultural science, business studies, design technology, information and communications technology, computer studies, wood technology, and food and textile studies, are offered to students at secondary school.

Even if students undertake these programmes and complete them successfully at secondary school there is no guarantee that they can proceed to employment or further TVET studies. In many cases the skills they have learnt in secondary schools are not in line with the courses offered by TVET providers. Neither can they be accredited towards TVET courses at post-secondary level. In most cases the knowledge and skills attained are not sufficient to get employment, nor are they of use to help their families and communities.

This raises further questions of what real benefit secondary school TVET courses have provided to these students. Is the range of TVET courses offered at secondary level sufficient to meet students' needs, especially with their exposure to fast changing technologies? How competent are the teachers delivering the courses in secondary schools? Is the quality of the courses up to national, regional and international standards?

Recommendations

The proper introduction of TVET and the preparation of students at secondary or even primary school level will be of great help, not only for students but also for post-secondary school providers and tertiary institutions. I believe most, if not all, Pacific countries will agree that there is a need to upgrade and strengthen existing TVET programmes. And for those that are not yet offering TVET, there is a need to adopt the successful models already used by other countries. This can be achieved through regional cooperation and without re-inventing the wheel. Regional cooperation will reduce costs and assist Pacific Islands to work within an acceptable yet realistic time frame.

As a matter of urgency, the following recommendations need to be considered.

Recommendation 1
TVET programmes must be considered as a priority area for inclusion and development in the secondary school curriculum of each Pacific Island nation's national education strategic and corporate plans.

Recommendation 2
Secondary schools must work closely with TVET providers at the post-school and tertiary level and with other stakeholders in the development of the secondary TVET curriculum so that there is a smoother and better quality pathway for students to follow when they complete or drop out of secondary school.

Recommendation 3
TVET possibilities and programmes must be promoted to parents and communities right through primary and secondary schooling to make them aware of viable study pathways and to show them the benefits to students in building confidence and achieving positive outcomes for their future.

Recommendation 4
Successful TVET training models already used by other countries in the region should be used as guidelines to develop national TVET programmes to suit each country's needs.

Recommendation 5
Include life skills and livelihoods programmes as part of TVET to raise students' self-esteem and to equip them with the necessary problem-solving and educational skills required to become successful adults.

Recommendation 6
Develop staff support programmes to keep teachers updated about the best teaching methods to deliver TVET courses and to keep them abreast with fast-changing technologies.

Recommendation 7
Design TVET courses that take into consideration traditional resources available locally in order to ensure mid- to long-term sustainability.

Recommendation 8
Get industries involved in order to give students realistic ideas of what it is like in the real employment environment and workplace.

Conclusion

TVET subjects have already been offered in secondary schools for some time, although not consistently across the region. Some countries have developed excellent models in cooperation with TVET providers for others to look at and learn from (e.g., Fiji, Samoa, Palau). There is a continuing need for all Pacific countries to collaborate in introducing quality TVET programmes in secondary schools across the region. Collaboration is needed between the countries that are in the process of strengthening these programmes and countries that are already running successful TVET courses in their primary and secondary schools.

PATVET members at both national and regional levels are committed to cooperating fully with Ministries/Departments of Education across the region. If the process of integrating TVET across the secondary school curriculum is well planned and properly introduced, the outcomes will be positive and all stakeholders will benefit. Members also will fully support the development and delivery of popular courses for all students in the primary and secondary schools in the Pacific as pre-requisites for further training at post-secondary level to meet local skills needs and labour mobility for better social and economic development in the region.

5

Field visits in Palau

Jennie Teasdale

Introduction

On the third day of the PRIDE workshop, our Palauan hosts organised a day of field visits for all participants. Promptly at 9.15am we were taken by bus to Palau High School to engage with their exciting school to work programme. Later in the morning we enjoyed a scenic tour to Airai Elementary School to look, listen and learn about their unique school farm and were even given an opportunity to taste some of the farm produce cooked to perfection and served by the student farmers at lunch time. Later in the day we all moved on to the Palau Community College where we were shown tertiary students at work in ten different TVET programmes.

Unquestionably, the Palauan Department of Education has thought long and hard about how TVET can be included at elementary and secondary schools and how these preparatory vocational experiences can connect with TVET training at the tertiary level. The Palauan system is strong and provides an excellent role model

for other Pacific Islands that are trying to start or to strengthen their own TVET systems, particularly in primary and secondary schools. Palau's TVET sector is still evolving and strengthening, but we believe, as Pacific Island TVET educators, that we can learn from the exemplary progress already made in this north Pacific Island nation.

This chapter describes the visits to the Palau schools and to the Palau Community College. All are delivering successful TVET programmes. The chapter provides information that allows the reader to reflect on what other Pacific Island TVET providers may consider transferable to their own primary, secondary and tertiary education sectors.

Palau High School

Preparing for our visit

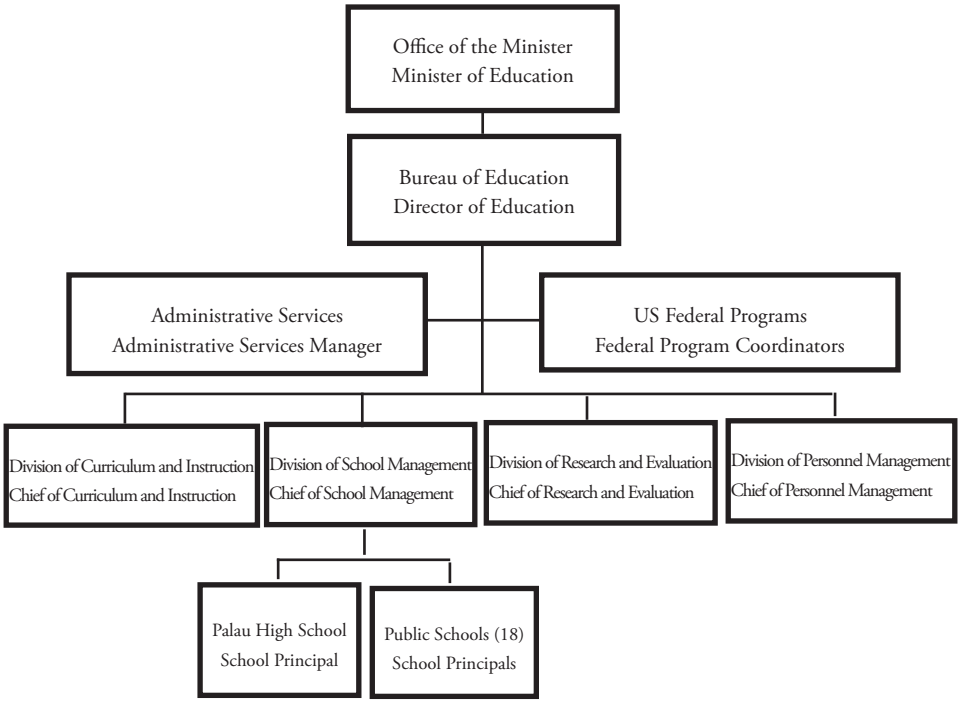
A presentation on the previous day by Palauan Ministry of Education representatives, teachers, a counsellor from Palau High School (PHS), a student currently studying at the school and a graduate student working in a local workplace concerned with environmental sustainability provided workshop delegates with comprehensive background information about the structures and functions of PHS.

Their presentation made us realise how strongly the Palauan Ministry of Education supported the TVET initiatives at PHS and exactly how Palau's only government secondary school fitted into the local education structures (see Figure 1).

We learned that PHS was established in 1962, that it currently has 824 students enrolled and that there are 83 members of staff.

All students at PHS are required to select a career pathway upon which to focus their studies while in secondary school. Students take both academic classes and vocational-technical courses throughout their secondary schooling. In their vocational-technical studies, students have training, both in the school and in local workplaces. Workplace learning, under the supervision of local employers,

Figure 1 Ministry of Education, Republic of Palau, Organisational Structure



includes job-shadowing, career-mentoring, a career practicum and summer work-experience programmes.

Four Career Academies at PHS offer all students a wide choice of TVET opportunities. The academy pathways offered include the following.

1. Industrial Engineering Academy
    - Automotive Technology
    - Construction Technology
2. Business Information Academy
    - Business Information

3. Natural Resources Academy
    - Agriculture
4. Health and Human Services Academy
    - Tourism and Hospitality

These Career Academies offer a curriculum and an instructional strategy to prepare an academically and technically competent workforce for Palau. All students undertake vocational studies and are given career guidance and counselling to assist them in their choice of an appropriate vocational pathway. Students have a chance to experience a range of vocational options in their early years of secondary school. As freshmen and sophomores they undertake a range of career development courses. In subsequent years as juniors and seniors, they undertake specific vocational/technical courses in the career academies.

Close collaboration among Palau employees, the wider business community, PHS and parents ensures that students are well supported, parents are well informed and local businesses are getting an appropriately trained workforce. Students who graduate from PHS in most cases know exactly where they wish to be employed or where they need to go to undertake further study that will equip them in their chosen field for the work force in Palau or beyond. Articulation between PHS and Palau Community College allows an uninterrupted continuity of vocational studies for students. The same sort of close relationship also exists between local employers and PHS, and many students move directly and seamlessly, as employees, into familiar tried and tested local workplaces.

Experiences at Palau High School

We were warmly welcomed to the school by the PHS principal. A dramatic presentation from a student club called PRIDE followed. It was a powerful mime presentation about a young adolescent girl called Bright Eyes, growing up in contemporary society where drugs are the norm. It depicted her trying many drugs, losing communication with her parents and distancing herself from many of her close friends. Her friends, her boyfriend and her parents continue to care about her and gradually she is able to turn her back on drugs. It was a presentation that obviously resonated with the students involved. We learnt later that the PRIDE

club had been formed at PHS with the aim of getting students to manage the pressures of adolescence positively. With the support of the Ministry of Health, the club also runs conferences for youths in Palau.

In small groups, we were taken by student guides and a teacher around the school to see the Academies where TVET programmes were being implemented. The previous day's presentation became a lively reality in the tour we undertook.

Industrial Engineering Academy
First a visit to the automotive technology stream: in an open-sided workshop students were busily servicing cars and learning about machines. The girls were as deeply involved as the boys and obviously enjoying the experience.

We also observed the construction technology class in action where computers are used to help design furniture and buildings. We were impressed with the quality of the furniture built, the capacity of students to use and service sophisticated power tools, and their grasp of architecture. The facilities included a computer room, a paint room, a tool room and an extensive workshop.

National Resources Academy
Next our tour guides took us to the garden area and tool shed where a smaller group of students was working on basic agriculture. We saw plants being propagated and compost in the making. In the classroom it was clear that a strong theoretical basis underpinned this largely practical hands-on horticultural and agricultural experience.

Business Information Academy
We were directed to an air-conditioned computer laboratory to observe this academy in action. There is a high level of student interest in business studies and commerce where computer classes, business mathematics, internet use and entrepreneurship are some of the many aspects of the courses in business information. Students were engrossed in a computer class when we visited this popular academy.

Health and Human Resources Academy

Students from the tourism and hospitality class awaited our arrival with tables of gourmet food they had created from local and imported ingredients. Much to our delight we were asked to sample these special, delectable dishes. The students served us graciously and with a professional ease that would be welcomed in the hospitality industry to which they aspire. We also visited a small student-run food and drink shop that gives them experience in the management of a small business.

We returned to the main hall and shared in a special morning tea where ice-cold young coconuts provided a welcome cool drink in the heat of the day. The students played music and sang in the background while we enjoyed conversations and photos with students and staff. Official farewells and thanks concluded this very pleasurable and informative visit.

Airai Elementary School

It was a fair distance to the semi-rural location of the Airai Elementary School where one of our workshop delegates, David Orrukem (the principal), and his staff were intensely proud of the student-run small farm that occupied part of their campus. As our buses drew up we were really impressed with the small farm that comprised row upon row of healthy vegetables, including lettuce, white radish, tomatoes, egg plants, corn, spinach and numerous other green leafy vegetables suited to the tropical climate of Palau. Clumps of healthy banana trees, tea bushes and papaya clustered around the extensive, ordered vegetable garden. We soon discovered that it was the sixth, seventh and eighth grade students who actually worked the farm by preparing the soil, propagating and planting the seedlings, weeding and attending to pest minimisation and, finally, the harvesting.

It was Friday and this was designated Farm Day. It was the day the elementary students looked forward to, as it released them from the classroom to learn first hand by doing. Before the farm was established many students were reluctant to participate, but now students delight in the experience and claim they will be farmers when they leave school.

We soon discovered that the hands-on side of farming was just half of the story. In a comprehensive poster display with student interpreters, the farming story was explained from its inception until now. Students later described orally and through PowerPoint presentations the scientific processes involved with planting seeds and propagating plants, producing good soil, nurturing the vegetables and trees, and harvesting their produce.

The farming experience was treated not just as a separate subject in the elementary school curriculum but was integrated into all areas of the curriculum. All students were engaged in:

- writing and reading about their fruits and vegetables and extending their vocabulary and their capacity to spell
- taking the principles of good health into the farming experience
- applying art and craft exercises to the farm
- looking at the mathematics of laying out the farm and measuring the production rates, as well as exploring the profits made from the sale of vegetables and fruit
- learning science by researching soil composition, the growth cycles of the various fruits and vegetables and the variables that contribute to the best produce
- benefiting from the physical exercise of tending the farm
- noting the historical aspects of farming in Palau.

The above were discussed by the students in a presentation that compared traditional farming methods to those they were using on the school farm, as well as many other areas.

Our visit included a sampling of the farm produce; the stir-fried leafy greens were absolutely fresh and delicious, as was the crisp salad. The lettuce leaf cups with tuna, mayonnaise and cornflakes were superb. Rosella tea was a new and thoroughly pleasant taste for some of us. Where else could we have had such food picked straight from the school farm, quickly prepared and consumed? While we ate, the students used us as a resource to find out about the countries from which we came and the agricultural production in those countries. We also learnt that the Republic of China (Taiwan) had given funding for the seeds as well as providing an adviser to assist with the development of the farm.

Certainly the seeds of TVET training were being sown at Airai Elementary School; positive attitudes towards vocational education and training were well established and the practical and management skills in agriculture and horticulture actively taught. Many workshop participants left the school reflecting on the benefits of TVET for students at primary school level and exploring the possibility of introducing similar programmes in their own countries.

Palau Community College

Introduction to the campus

Palau Community College (PCC) is the key tertiary provider of technical and vocational education for its own citizens and a number of students from adjacent islands. The vocational training at Palau High School articulates with the courses offered at PCC and is constantly being improved. The College also has connections with the University of Guam, and with universities in Japan and the United States, including Hawaii. Local students at PCC can access some tertiary courses from these universities, particularly in the liberal arts area. Teachers, nurses and police can undertake training through PCC's on-line articulation with overseas universities and training colleges. Visiting lecturers from some universities come to provide short courses for enrolled students. A number of students continue degree programmes in these universities if they wish to graduate at a higher level.

We were welcomed to PCC by the Chair of the College Board. He informed us of the ten vocational streams in the college and said that courses aimed at providing students with the skills and knowledge required in their chosen vocation, as well as giving them a real understanding of why they needed this knowledge. PCC also trained students to be respectful, responsible and able to achieve their full potential.

Some of the problems confronting the college were outlined: low wages for graduates, causing students to look beyond Palau for work; a budget insufficient to do all that they would like; and a constant struggle to get their standards recognised.

Many of these concerns are common to vocational training institutions across the Pacific.

Tour of the campus

PCC has an extensive campus in the centre of town. In two groups we were shown what the College teaches, the library and the administrative facilities. Ten courses are taught. They are described below.

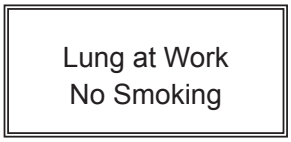
Technology in the Classroom
Here students are instructed in business skills for the world of work.

Tourism and Hospitality
A student and a teacher explained that students learnt about hotel operations, tour services, and food and beverages in this programme. The programme also offers a catering service for local clients. The demand for these skills is increasing in Palau and some nearby islands, as tourists from Asia, the US and Europe seek out tropical locations where they see sun and surf, diving and fishing, as well as the scenic beauty as the attractions.

General Electronics
Students from this course graduate with a good knowledge of general electronics including industrial skills, computer repair, and the manufacture and maintenance of some electronic goods, such as televisions and DVD players. Certificate and degree programmes are offered. As this is a popular course, students are pressured to complete course requirements on time to allow new students to enrol. Internships with industry are available. We were impressed by the constructive recycling of electronic waste and the attention to the disposal of non-recyclable waste.

Electrical Technology
Students were hard at work learning the wide-ranging technology of electrical systems. We watched students working on the complexity of residential wiring and being instructed on how it can be done to meet the required standards.

Air-conditioning and Refrigeration
This course is the biggest division at PCC. This is not surprising considering the tropical climate and the increase in the number of tourist hotels that are giant consumers of air-conditioning and refrigeration. Even as tourists ourselves, we were pleased to feel the coolness of a functioning air-conditioner! Among the occupational health and safety signs hung in the workshop this one caught our eye.



Small Engines
Much of the work in this course is associated with the maritime industry. A large boat shed attached to the study area enables students to learn how to manage and service outboard motors. This course is important for tourism as well as for the livelihood of Pacific Island residents.

Automotive Workshop
Students are taught the mechanics of cars and how to mend and service them.

Welding and Fabrication
This course produces graduates who are able to apply up-to-date welding and fabrication skills to local industries.

Carpentry
The demand for carpenters is continual and students are given appropriate skills to enable them to build homes and furniture. In fact all student groups are required to build a small house on campus before they graduate. Subsequently, these houses are used for student accommodation.

Agriculture
Students undertake their theoretical classes at PCC and carry out the practical work in rural locations, sometimes on other islands.

We were impressed with the comprehensive vocational training offered by PCC, its obvious standing in the community, the relevance of the content of many of

the courses and the commitment of students, teachers and the Ministry to the programmes offered. Also impressive was the fact that all learning was taking place as a hands-on experience backed up with theoretical knowledge.

Conclusion

After our busy day, we came away feeling very excited about the technical and vocational education offered to students in Palau. It indicated to us the deep commitment and support offered by the Palau Ministry of Education. It raised many questions in our minds about ways to strengthen this sector in our own island nations. Equally it affirmed some of the processes and initiatives practised across the Pacific region.

Our day confirmed that there are already many exciting TVET initiatives both in Palau and other Pacific Islands that can be shared and replicated. It also showed that we have many Pacific TVET experts who are able and willing to share their expertise.

The challenges

Our day visiting three outstanding TVET providers gave us some insights into how Palau answers some of the questions below. It is up to us to ask these questions in our own nations and see what answers are possible. Whatever the outcomes, we will always remember the TVET model Palau has so willingly and graciously shared with us.

The questions

1. How do we raise the profile of TVET among parents and communities so that they see the value of such programmes in secondary schools?
2. How can parents and students be convinced that TVET is not inferior to university education?
3. How can Ministries/Departments of Education better serve the TVET sector?
4. How can funding that is not tied to donor demands be found for TVET?

5. How can TVET teachers become more involved in professional development?
6. What needs to be done to incorporate successful TVET programmes in primary/elementary schools?
7. How can TVET be integrated into the secondary school curriculum?
8. How can we best articulate the TVET links between primary, secondary and tertiary providers?
9. How can we strengthen the relationships between local industries and TVET training institutions?

6

Case Study 1: Fiji

Josefa Natau, Eci Naisele, Viliame Rabici

Introduction

PRIDE staff worked closely with Fiji TVET representatives to develop a case study on the status of TVET in Fiji and to detail a number of exciting initiatives in the sector. This case study presentation was prepared specifically for the Palau workshop on the theme 'The role of TVET in Pacific secondary schools: new visions, new pathways' and was regarded as an integral part of the programme. It is presented here as a resource for readers.

TVET programmes in Fiji secondary schools

Fiji participants commenced their presentation with a 15-minute video entitled 'Addressing the human resource needs of Fiji through TVET'. This vibrant introduction gave the participants a feel for the strong culture of Fiji through stunning visual images and an engaging sound track. As it focused in on TVET, they learned that only 30% of Fiji's school-leavers were successful in obtaining employment after leaving school. The Fiji Government, through its Ministry of

Education, took up the challenge of revitalising its TVET sector to provide a greater opportunity for the 70% of unemployed school-leavers to obtain skills that would lead to work. To achieve this, the focus was placed on secondary schools and how they could provide vocational training. Enterprise education in schools was considered a valuable pathway forward. In addition, the Fiji Institute of Technology (FIT), one of the two key post-school vocational providers, offers bridging courses to students who do not have the required entry qualifications to enter formal vocational programmes. The video highlighted these initiatives and other TVET programmes offered in Fiji, and gave workshop participants a good starting point for the subsequent PowerPoint presentations on the development of the TVET sector in Fiji.

Corporate goal of Fiji's TVET sector

Fiji's TVET sector describes its corporate goal as follows.

> Fiji wants to create a relevant, flexible, quality-assured and accessible TVET system to promote the basic development of a competent, skilled and marketable society to meet Fiji's market needs.

TVET is one of eight key education areas within the Fiji Ministry of Education. Top executives in the TVET sector are accountable to the Deputy Secretary (Professional) and the Deputy Secretary (Finance and Administration) who in turn are responsible to the Chief Executive Officer and the Minister for Education.[1]

Fiji's education context

Currently, there are two government-aided TVET tertiary institutions in Fiji: the Fiji Institute of Technology (FIT) that provides pre-service vocational training and the Training and Productivity Authority of Fiji (TPAF), an institution responsible for in-service vocational training. In addition there are 63 secondary school vocational centres, 163 secondary schools and 745 primary schools. Vocational education is offered to mainstream primary and secondary schools.

1. This structure was in place at the time of writing this chapter, in Nov. 2006.

Courses offered include:

Agricultural Education
Agricultural science is offered at primary level and in secondary schools from Form 3 to Form 7.

Computer Education
Computer science is the only component of ITC offered in schools from Form 5 to Form 7.

Home Economics
Home economics, food and nutrition, clothing and textiles, food technology, and apparel and design, are offered in schools from Form 3 to Form 7.

Industrial Arts
Technical drawing, metalwork, woodwork, graphic arts, wood technology, engineering technology, technical drawing and design, and introduction to technology are offered in schools from Form 3 to Form 7.

Office Technology
Typewriting and word processing, and office administration and business communication are offered in schools from Form 3 to Form 6.

Vocational
At post-form 4 in selected schools and colleges, students may undertake carpentry and joinery, automotive engineering, catering, tailoring, agriculture, including hydroponics and mariculture, computer and office technology.

Advanced Vocational
Through community-based training, students can undertake a wide range of TVET courses including: homestay; organic farming; floral arrangement and propagation; tailoring, swimsuits and linen; cane furniture making; cooking and catering, housekeeping, customer service, and first aid.

Considerable thought has been given to student career pathways and award structures in secondary schools. Figure 1 shows the details.

Figure 1 Proposed student career pathways in Fiji secondary schools

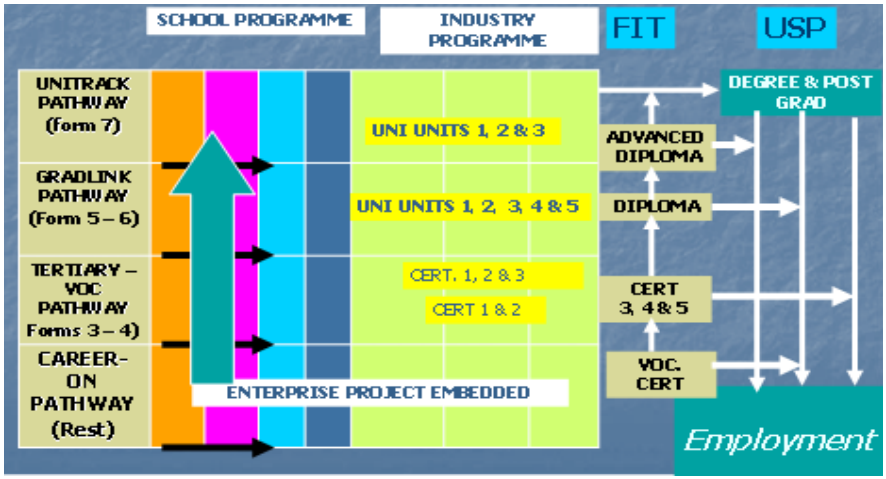


Figure 2 Proposed Fiji National Qualifications Framework for Education

	School Sector	VET Sector	Higher Education Sector
10			Doctorates
9			Masters
8			Post Grad. Diploma
7			Bachelor/Grad. Diploma
6		**Advanced Dip.**	
5		**Diploma**	
4		**Certificate IV**	
3		**Certificate III**	
2		**Certificate II**	
1	**Certificate I**	**Certificate II**	

Policy development for TVET in Fiji

A comprehensive review of TVET in Fiji was carried out to align and streamline the sector for improved service. The review found that there was no clear direction for the sector, that there was considerable duplication and that there was a lack of coordinated effort. A lack of political will to improve the sector and poor funding arrangements added to concerns about TVET.

To address these problems it was proposed that a needs-driven approach shape the TVET sector. A consultancy request to AusAID resulted in the engagement of the Fiji Education Sector Programme (FESP) to assist local education personnel. Policy development workshops were conducted with stakeholders and policy documents developed. The Fiji Ministry of Education provided oversight for this donor-driven process. The policy documents made recommendations to the Fiji Ministry of Education for TVET in private institutions, in secondary schools and in government institutions.

Outcomes-based education

A new paradigm for learning was proposed to overcome an ailing TVET delivery system. It was discovered that the existing TVET curriculum was too content-based, too compartmentalised, and far too examination-oriented. It also lacked the capacity to measure students' abilities and seldom encouraged or challenged students to think at a high level. FESP was engaged to assist, and through a process of curriculum development workshops, a curriculum framework that emphasised an outcomes-based approach was recommended for implementation at primary level in 2007.

Outcomes-based education (OBE) is a method of curriculum design and teaching that focuses on what students can actually do after they are taught. It addresses the questions below.

- What do you want the students to learn?
- Why do you want them to learn it?
- How can you best help students learn it?
- How will you know what they have learnt?

The OBE method was adopted because it is able to measure what the students are capable of doing—something that traditional education systems often fail to do. OBE is also a methodology that goes beyond structured tasks such as memorisation. In fact, OBE demands that students demonstrate skills through more challenging tasks such as completing projects, analysing case studies and giving presentations.

There are four basic principles of OBE:

clarity and focus about outcomes
designing backwards
consistently high expectations of success
expanded opportunity.

When designing OBE, outcomes guide instructional planning. Instructional planning under OBE has four major steps.

deciding on outcomes
demonstrating outcomes
deciding on contents and teaching strategies
assessments in OBE.

OBE is to be piloted in Fiji's TVET sector in 2007. We believe OBE promises a high level of learning for all students as it facilitates the achievement of outcomes. OBE is characterised by its appropriateness to each learner's development level and to active and experience-based learning. OBE also gives students the freedom to study the content of the course in a way that helps them learn it. If OBE is to be successfully implemented, it must involve all stakeholders: administrators, educators, parents, teachers and students.

TVET and enterprise education

At the very heart of enterprise education (EE) is the desire to develop in students a creative and innovative responsiveness to changing needs. It is a holistic approach to learning that allows students to identify real projects related to social, personal,

civic, community, business and work issues. During EE, students develop and demonstrate transferable skills, such as identifying problems and critical thinking. Students involved in EE identify, create, initiate and successfully manage opportunities. EE is a student-centred rather than a teacher-centred approach to learning.

EE was recommended for the TVET sector in Fiji because the present TVET curriculum was seen as too narrow and too academically oriented, resulting in students not realising their potential. Planners liked what they saw of EE because it involved students in problem-solving, creative thinking, individual work, analysis and critical thinking. It also offered a flexible approach to learning, encouraging students to use their initiative and to find appropriate resources.

Secondary students in rural Fiji working on an Agricultural Enterprise Education project.

Enterprise education is a positive addition to TVET because it is not just another add-on to an already crowded curriculum; it offers a broader approach to learning. It can also achieve objectives from several different curriculum areas. Importantly, the outcomes are more about achieving enterprise skills than necessarily producing

products and services for sale. Using an EE approach can positively engage students who are labelled non-academic and renew their enthusiasm for learning because it uses a competency-based approach rather than relying on abstract examinations to measure achievement.

Starting EE in Fiji

Initially remote and disadvantaged schools were identified and invited to fill in an expression of interest form detailing how they might establish an educational enterprise through their school. The Fiji Ministry of Education then selected twenty schools to pilot the programme. Each school was given seed money of F$500 in three instalments by FESP. This initiative commenced in 2004.

What makes EE different?

Many exciting differences from a more conservative teacher-centred educational approach have already been noted in Fiji's EE project.

1. Students feel a real sense of ownership of the teaching/learning process. They assume more responsibility in EE and are only guided and supported by their teacher.
2. Students are immersed in experiential learning. They use concrete, real-life examples and learning opportunities, rather than abstract, second-hand examples.
3. Students learn co-operatively. Through co-operative learning, students learn with and from each other. They share learning tasks and can learn from other adults as well as teachers.
4. Students learn through reflective practice. They continuously reflect and review their learning throughout EE.

EE is about thinking outside the box; for example, harnessing the strength and vigour of the local rugby team to dig out a fish pond for a local enterprise relating to fish breeding. EE needs a strong collaboration among stakeholders (including the local rugby team!) but essentially students own the projects. Ownership, cooperation and collaboration are the hallmarks of EE.

In Fiji, since 2004, 59 schools have piloted an EE programme. Both primary and secondary schools have been targeted. Well over half of the programmes have been in rural areas. Statistics indicate that 80% of these programmes have been successful and are sustainable.

In summary, EE as a TVET learning tool has already engaged students, and undoubtedly will continue to do so, and produce far more positive educational outcomes than more traditional modes of teaching.

Fiji Ministry of Education TVET vision and mission

It became obvious that Fiji needed to look closely at vocationalising the secondary school curriculum. Funding needed to be found to support a holistic approach, an approach that integrated TVET into the curriculum like the water in sugar solution. New competencies needed to be identified and applied. The following discussion outlines nine initiatives to ensure that vocational education makes a significant contribution to education in secondary schools.

The Fiji Ministry of Education (MOE) has articulated its vision for TVET in these words: *A quality education and training for all that is responsive to changing needs.*

The MOE offers this as its mission statement: *To promote, develop and facilitate education and training within the framework of government policies and priorities.*

Fiji now regards TVET as such an important part of its education portfolio that there is a special Minister for TVET in addition to the Minister for Education.[2]

Types of vocational programmes in Fiji

Two key types of TVET programme are offered.

1. Normal vocational TVET
   This includes catering and tailoring, automotive engineering, vocational agriculture, office technology, vocational computer education, and carpentry and joinery.

2. This was accurate at the time of writing in November 2006.

2. Advanced vocational training

These vocational courses are offered as franchised courses at the Fiji Institute of Technology and at TPAF at trade certificate level:

welding fabrication
agricultural engineering
carpentry and joinery
automotive engineering
commercial baking
cookery
housekeeping
food service.

Vocational education objectives

The key objectives of TVET in Fiji are as follows:

training for employment
training for paid employment
training which will lead to further education
training for life skills useful to those destined to go back to the village or rural setting.

Fiji TVET students working on carpentry and joinery design activities

Models of TVET in Fiji

A total of nine different models of TVET have been or are about to be implemented across Fiji. These models have responded to local contexts and local needs.

1. School-based model

At Ratu Kadavulevu School for boys there are academic courses running parallel with vocational courses from Forms 3 to 7. Vocational courses include automotive engineering, carpentry and joinery, welding fabrication, agricultural engineering, IVC, and vocational agriculture for student farmers. The school makes allowance for extra-mural students. These students can still sit the formal examinations while doing vocational courses. Four of the vocational courses are franchised to FIT. Support subjects in the curriculum are serviced by academic teachers.

2. Stand-alone centre model

Ratu Mara College has a stand-alone vocational school with six teachers and 96 students. All courses are franchised to the Fiji Institute of Technology and TPAF. Vocational courses offered include hospitality, carpentry and joinery, agriculture, automotive engineering, and vocational computer and office technology. Students receive a Class 3 TPAF Certificate on completion of their studies and a Vocational Certificate from FIT, where they can complete stages 3, 4 and 5. There are ongoing work attachments and placements for students at Ratu Mara School and analysis shows that vocational graduates are highly likely to find work.

Students in an automotive engineering class at Ratu Mara School

3. Montfort Boys Town model

Montfort Boys Town, on the outskirts of Fiji's capital Suva, is a complex established to cater for school drop-outs and economically poor, under-privileged and disadvantaged adolescents. Orphaned children and children of single parents are also welcomed. The objective of the school is to assist these young people to regain their self-esteem. Students live in the complex and undertake their studies there.

Vocational courses offered include motor mechanics, joinery and cabinet making, plumbing and sheet metal work, welding fabrication, fitter machinist, upholstery, electrical studies, and block laying. On completion of their vocational studies the students are highly employable. Statistics show that, in recent years, 95 to 100 per cent have been successful in finding employment.

4. Franchised model

Tailevu North College, situated in rural Fiji, offers both vocational and academic education to its students. All vocational courses are directly franchised to FIT and TPAF. Students can study catering and tailoring, automotive engineering, carpentry and joinery, vocational agriculture, office technology, and computer education.

5. Private vocational model

Tutu Vocational Training Centre focuses on the delivery of vocational training to young adults and married couples. All training is for self-employment. Among courses offered are catering and housekeeping, automotive engineering, carpentry and

Tutu Vocational Training Centre student doing practical work in mechanical engineering

joinery, farming for business, and poultry and pig farming. Farming students learn on the job and save money into a bank account each year. Some have accumulated between F$10,000 and F$20,000 during their 3-year training period.

6. Enterprise model

Ratu Navula Secondary School is centrally located adjacent to large tourist hotels and extensive tourist resorts in the west of Fiji near the Nadi International Airport. The school takes advantage of its location with full engagement of its students in the hotel/tourism industry, both for work attachment and permanent employment. Catering, tailoring, food production, food and beverages, housekeeping, beauty therapy, automotive engineering, and carpentry and joinery are taught at the school. The school also owns a restaurant, a bar, and simple hotel facilities that provide real-life experience for students.

Tailoring and garment production at Ratu Navula Secondary School

7. Matua (mature) programme model

In Fiji's capital Suva, Nabua Secondary School caters for students who have left school and wish to return to continue studies in vocational and/or academic areas. They are eligible to sit the Form 4, 6 and 7 national examinations. There is no age limit and students' ages have been recorded at between 21 and 49 years. This

model was introduced to provide another pathway for school-leavers who wish to qualify for academic examinations and gain entry into other pathways for the world of work and further studies.

Classes are conducted between 5.00 pm and 9.00 pm on a daily basis so that working students can attend after their day at work. Teachers are given incentive packages to teach these mature students. There is a huge demand for this programme but only limited spaces are available.

8. Alternative pathway model

Nadi College is situated in a key urban area dominated by tourist hotels and commercial enterprises that support the tourist industry. The college offers vocational education in what is known as an alternative pathway model to cater for the many secondary students who drop out or are pushed out of secondary school with insufficient qualifications to get them into productive employment. This model of TVET takes away the stigma of failed schooling held by many of these students and provides a new opportunity for them to obtain work skills. Currently tourism and hospitality courses are targeted.

9. Advanced vocational model

Using a non-formal education approach, students of any age wanting to develop their skills further are given an opportunity to undertake advanced vocational training. Ten mobile trainers move across the islands of Fiji from village to village to conduct short TVET courses to train local villagers to work, and to manage economic initiatives in their own location. There is a strong emphasis on co-operative and collaborative approaches among villagers to create a successful industry. Areas that have been included in training sessions have been 'How to run a successful Back Packer Hostel' and 'Home Stays for Tourists to Fiji'.

Proposed TVET initiative for 2007 in Fiji

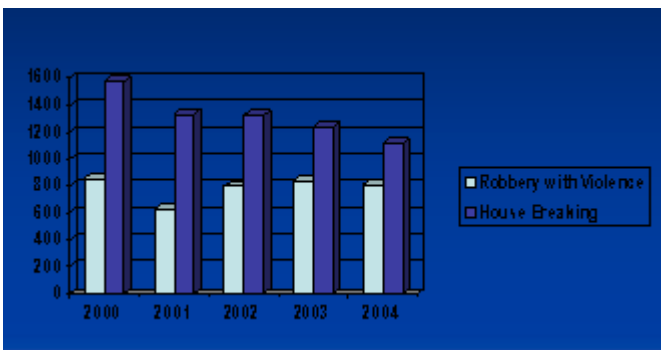
Fiji TVET managers have decided to repackage the carpentry and joinery course so that it includes local forestry products and boat building. This is in response to industry demand. This new initiative is to be franchised at FIT and will be piloted in

two schools where marine culture and forestry are the main foci of local businesses. These courses will be of two years' duration and will use existing woodworking facilities and equipment. Employability for graduates looks promising and there will be a good opportunity for work attachments in local industries.

Fiji wood-working facilities will be used for forestry and boat building classes in 2007

TVET provides a solution to social problems

Figure 3 Graph showing decline in house breaking, robbery and violence in Fiji



Recent social analysis into violence, house-breaking and robbery in Fiji indicates that there has been a steady decline in these anti-social behaviours since 2000. Researchers suggest that this decline can be linked in part to the fact that more troubled youths in Fiji are becoming involved in vocational courses, giving them a sense of direction and removing them from the streets.

Ensuring a multi-modal TVET delivery in Fiji

To ensure that Fiji's education sector can continue to deliver these nine important models of TVET we must ensure that:

- our TVET policy is aligned to government strategic plans and policies
- a relevant and workable curriculum is in place and that this curriculum is constantly monitored and regularly reviewed
- a good, compact, industry–school linkage is maintained
- teachers and trade personnel delivering TVET are regularly up-skilled and are qualified to assist learners optimally
- infrastructure, such as classrooms, laboratories, workshops, tools and equipment are up-to date and in good order
- natural and local resources are sourced and utilised
- funding is secured from local and overseas sources.

If these matters are secured, Fiji's TVET delivery will continue to benefit students, local communities and local industries.

The Fiji Institute of Technology

The Fiji Institute of Technology is the major post-school vocational provider in Fiji. Its vision statement equates with Dr Rupert Maclean's statement that TVET must be demand-driven.

> The Fiji Institute of Technology shall be a demand driven and self-reliant centre of excellence providing first-class skilled workers, tradesmen, technicians and entrepreneurs and professionals oriented towards life-long learning and sustainable socio-economic development.

FIT's mission statement indicates that it engages with both the formal and informal education sectors. This system prepares students for local and global employment in industry. FIT aims:

> to provide a broad spectrum of high quality, internationally recognised post-secondary programmes of study in technical and vocational education and training that is responsive to the needs of the industry, the market place and the non-formal sector of employment, placing emphasis on excellence and equity.

The scope of FIT services

FIT is a four-campus tertiary TVET provider, with its major campus in Fiji's capital, Suva, another in the west of the main island in Nadi, a third in Ba in the north-west and the fourth on the second largest island of Fiji in Labasa.

Fiji and the location of TVET centres and campuses

Fifteen franchised centres of TVET across Fiji are linked to FIT.

Regionally, FIT has established a franchise centre in Vanuatu where e-technology is taught as part of computing.

Modes of delivery include the franchise system outlined above, plus normal programmes offered through subsidised day classes, normal programmes offered as fee-for-service evening classes, short programmes, summer programmes, training-cum-production mode, open and distance mode, and mobile unit mode.

There are ten schools within FIT. The following entry requirements are set. For entry into certificate programmes, students must have studied up to Fiji School Leaving Certificate (FSLC) or have a Year 12 level of education. With this entry requirement they can enter engineering and science and can undertake studies in mathematics, English or technology subjects. If in a non-engineering programme they can take mathematics, English and any other subject. Mature students with this level qualification are accepted into certificate programmes.

For entry into diploma programmes, students need to have an FSLC pass or equivalent with 240 marks. In engineering and science, these students can study mathematics, English, science and technology subjects and in non-engineering programmes they can study mathematics, English or any other subject. Mature students with proven work experience and an appropriate academic background are accepted into FIT diploma programmes.

Students wishing to continue to advanced diploma studies must have a good pass in a diploma programme. Those wishing to embark on degree programmes in engineering at the Auckland University of Technology, the University of Auckland, Newcastle University or the University of Queensland may have to take bridging courses if their advanced diploma qualification is insufficient.

Those in the business studies stream can get cross-credits of up to eight units at the University of the South Pacific if they have successfully passed the highest level

FIT courses in business studies. Successful science students can articulate with the Auckland University of Technology in a 3-year degree programme franchised with FIT.

Programmes offered by FIT Schools

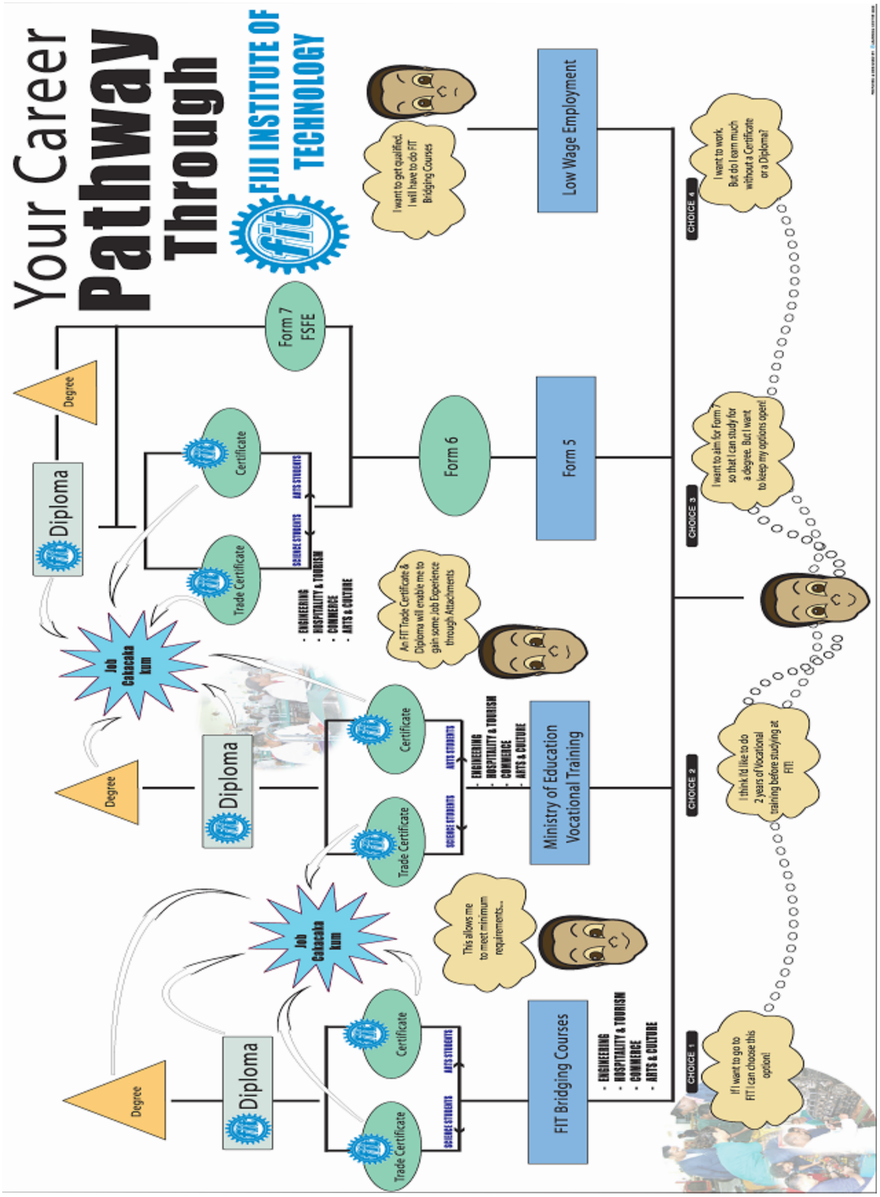
School 1: School of Arts, Culture and Design
Examples of full time programmes offered at a foundation level are visual arts, graphic design and media communication. A preliminary programme, in addition to certificate and diploma programmes, is offered in music. Full time certificate programmes are offered in animation, silkscreen and media advertising, beautician training and hair dressing.

Among many part-time programmes offered are graphic design, desktop publishing, script writing and acting. Special programmes include preliminary music grades 1 to 4, a certificate in sports studies and another in fine arts. Painting is offered for adults and children. Sculpture, weaving and screen printing are also offered.

School 2: School of Automotive Engineering and Road Transport
Students can undertake studies in this school and gain an engineering trade certificate in light motor vehicles, heavy mobile plants, motor vehicles (electrical/electronics), mechanical aids, panel beating, coach work, spray painting, and heavy commercial vehicles. A Diploma in Automotive Engineering is also available.

School 3: School of Building and Civil Engineering
Certificate level studies are available for water fitters, sanitation and drainage and first line supervision. Trade certificates are awarded in carpentry and joinery, plumbing and sheet metal. Diploma studies include architectural technology, building, civil engineering and quantity surveying. An Advanced Diploma in Civil Engineering is also offered.

School 4: School of Electrical and Electronics Engineering
Students can study EA programmes in TV/VCR maintenance, servicing and repair, and undertake an electrical serviceman's programme. They can also gain a


Your Career Pathway Through
FIJI INSTITUTE OF TECHNOLOGY
Degree
Diploma
Form 7 FSFE
Certificate
Trade Certificate
SCIENCE STUDENTS
ARTS STUDENTS
Form 6
Form 5
Low Wage Employment
I want to get qualified. I will have to do FIT Bridging Courses
I want to work. But do I earn much without a Certificate or a Diploma?
I want to aim for Form 7 so that I can study for a degree. But I want to keep my options open!
An FIT Trade Certificate & Diploma will enable me to gain some Job Experience through Attachments
- ENGINEERING
- HOSPITALITY & TOURISM
- COMMERCE
- ARTS & CULTURE
Job Cakacaka kum
Ministry of Education Vocational Training
I think I'd like to do 2 years of Vocational training before studying at FIT!
This allows me to meet minimum requirements...
FIT Bridging Courses
If I want to go to FIT I can choose this option!
CHOICE 1
CHOICE 2
CHOICE 3
CHOICE 4

wireman's license and study CISCO network programming. Trade certificates can be obtained in electrical engineering, electronic engineering and avionics. Diploma studies are offered in electrical/electronic engineering, and an advanced diploma is offered in electro-technology engineering. A bachelors degree programme is offered in electrical engineering.

School 5: School of Mechanical Engineering
EA courses available for students include:

Introduction to autocad
Advanced autocad
Basic welding
CFC accreditation programme
Certificate in welding
Certificate in small engine maintenance
Programmable logic controls
Basic CNC
Boiler operations
Steam plant.

Trade certificates can be obtained in fitting and machining, fabrication and welding, plant maintenance, air conditioning and refrigeration and aircraft maintenance engineering. A certificate level course is offered in agricultural engineering. Diploma studies can be undertaken in mechanical engineering and plant engineering. An Advanced Diploma in Mechanical Engineering is also offered.

School 6: School of Commerce
Diploma studies are available in business accounting, business–applied computing, business economics, business management, and business office administration. Students can also gain a certificate in business accounting, business–applied computing, business banking, general business, business management, business–secretarial, business–customs and a clerk typist certificate.

School 7: School of General Studies
This school offers a wide range of programmes including English as a second language, a certificate course in industrial laboratory technology, foundation studies in pure science and science and technology, diploma courses in tertiary teaching, environmental science and industrial laboratory technology, and a bachelor's degree in applied environmental science.

School 8: School of Maritime and Fisheries Studies
Deck studies in this school include classes 2, 3, 4 and 5 master, and 6 master /engineer. A safety certificate and a deck watch rating are also available.

Fisheries programmes include the following certificate courses:

fisheries statistics and research methodology
rural extension and development
maritime hospitality
fishing techniques and seamanship
aquaculture engineering
applied fisheries technology (a diploma programme).

Engineering programmes that qualify students as a class 2, 3, 4 and 5 engineer are available, as is a class 6 master/ engineer and an engine-room rating.

School 9: Hospitality and Tourism
A diploma in hotel management sits alongside trade certificates in accommodation, cookery and food and beverages. Certificate courses are available in hospitality operations, front line office reception and hospitality accounting.

School 10: The Learning Centre
This school includes the following departments:

Department of Open and Distance Learning
Department of Human Resource Development
Department of Research and Development.

The Department of Open and Distance Learning offers a bridging unit for students in mathematics, science and communications. Diploma courses are offered in engineering, building, business services, quantity surveying and architecture.

The Department of Human Resource Development has among its offerings a Diploma in Tertiary Teaching and other courses that train TVET teachers. Its study programme for tertiary teacher training, both pre-service and in-service, is articulated with courses offered at the University of Newcastle in Australia. Teachers can graduate with a Bachelor in Education (TVET).

The Department of Research and Development researches TVET programme development and offers consultancy services. It is also supportive of TVET teachers as researchers.

The Learning Centre also provides special ICT Entrepreneurial Programmes delivered under the LEARNKEY System that offers 965 courses from a basic to an advanced level. Examples include Microsoft (Word, Excel, PowerPoint, etc.), CISCO and ORACLE.

TVET Research on Fiji

Research conducted by The Learning Centre at FIT has made some important contributions to the development of TVET courses.[3] A project conducted in conjunction with the University of Newcastle looked specifically into TVET at secondary schools. The research assessed student aspirations and career ambitions in their final year of secondary schooling. It produced very interesting results. Reporting generally, the researchers discovered that many students had very high aspirations to become lawyers, CEOs and doctors, for example. At present in Fiji, few such graduates are needed. Fiji's needs lie in the tourism industry, where demand for students qualified in all areas of tourism is high. Researchers also discovered that parents were projecting their own career aspirations onto their sons and daughters. They did not want their children to qualify in a trade, as many of

3. Information on the publications that reported the two studies is given at the end of this chapter.

they themselves had been. They wanted their children to aim for professions they considered higher in status and were more highly paid. Parents were also willing and, in most cases, could also afford to pay for these more costly career pathways.

The study also found that teachers, especially at the secondary level, pushed students into these more elitist career pathways, possibly for reasons of reflected glory or aspirations that they themselves had not been able to realise.

The attitudes of parents and teachers were reflected in students. The possibility of studying TVET and achieving a trade qualification was regarded as second best. All parties rejected the reality of the economic situation in Fiji and were unwilling to change their commitment to the academic career pathways they considered well above TVET. The findings confirmed the view that career status is overplayed.

Curiously, increasing numbers of mature adults are returning to study TVET and finding the experience satisfactory and one that leads to employment. There needs to be trade advocacy in secondary schools to show parents, teachers and the students themselves that TVET study is a real and rewarding option. Mainstream education should consistently provide and celebrate vocational courses as exciting and viable career pathways for all students.

In another study, also undertaken and reported on by staff of the FIT Learning Centre, 1,807 people were interviewed, 54% male and 46% female, in 60 villages across the many islands and 14 provinces of Fiji. All participants wanted skills training programmes that were relevant and necessary for their immediate and future needs. Their responses were shaped by their rural experience and the resources they had available to them. The most popular programme choice for men was basic machine repair; women said they would like to have more skills in family education, cooking, running a small business and flower arrangement.

Conclusion

We are committed to the vocationalising of the secondary school curriculum and will take further steps to do this in Fiji. We believe it is the way forward for all the

small island states of the north and south Pacific. To vocationalise the curriculum we must take a holistic approach and work collaboratively. We will need to identify new competencies and integrate these across all subjects in our secondary school curriculum.

To conclude, let us remind you of the water and sugar analogy. Imagine that TVET is like sugar and our secondary school curriculum is contained in a glass of water. We need to spoon that sugar into the glass of water and stir it thoroughly, making sure that the sugar has completely dissolved in the water. This is the way that TVET can and should permeate every area of the secondary school curriculum.

Note

Further information on the Fiji study described in this chapter can be found in a paper available from the Fiji delegates from FIT who authored this chapter. The paper was produced by the staff of The Learning Centre, Fiji Institute of Technology, Samabula Campus, Fiji Islands.

Details of the paper are as follows:
Cavu, P., Hazelman, E., Nilan, P. and Tagicakiverata, I."White collar work": career ambitions of Fiji final year school students.
Fiji Institute of Technology, 2005.

Also available from the same source is a second paper produced by eight authors from The Learning Centre:
Cavu, P. et al., Education and the training needs of rural communities - a situational analysis of selected villages in 14 provinces of Fiji.

Another version of the first paper is available:
Nilan, P., Cavu, P., Tagivakiverata, I. & Hazelman, E. 2006. White collar work: career ambitions of Fiji final year secondary students. International Education Journal, 7 (7), December. Available online at:
http://ehlt.flinders.edu.au/education/iej/main/mainframe.htm

7

Case study 2: Papua New Guinea

Winsley Degoba

Introductory comment

This Papua New Guinea (PNG) case study outlines the current status of TVET in PNG. For comparative purposes and general information about how different approaches are adopted in each Pacific Island nation, this study offers useful information.

About PNG

PNG occupies the eastern half of the island of New Guinea just south of the equator and north of Australia. It shares a border with Indonesia and has many outlying islands. It has a land area of 463,840 square kilometres, mostly covered

by tropical rain forests and divided by massive mountain ranges. The country is very rich in natural resources, including gold, copper, silver, vast tropical forests, natural gas and oil. PNG's sustainable use and protection of its natural resources has attracted world-wide interest in recent years. PNG has taken steps to protect its natural resources, including its tropical forests, extensive marine fisheries, large areas of arable land for potential agricultural production and an abundant supply of fresh water.

Map of Papua New Guinea

PNG has a population of 5.8 million (2006 estimate) with a growth rate of 3.2%. 85% of the population lives in rural areas. Life expectancy is 54 years. In 2004 statistical estimates indicate that 38.3% of PNG's population is below the age of 15 years, 57.9% between 15 and 64 years and 3.8% are 65 and older. The 1998 Human Development Report on PNG has projected that by 2010 the school age

population will have expanded by 45% and the economically active population will have grown by 67%.

Culturally, PNG is richly diverse with more than 800 languages being spoken. Melanesian Pidgin serves as the lingua franca and Hiri Motu is spoken in the Papuan region. English is used in commerce, government and in schools. Traditional lifestyles are maintained alongside many global practices. Small villages in isolated highland areas and on remote islands have an intact traditional lifestyle that is shaped by their province of origin.

The PNG education system

The mission of the PNG education system in the 21st century is to enable PNG to become a more literate, educated and skilled nation. Basic education is still needed for many students across the country. Education and training are considered an essential investment in the recovery, sustainable development and future of PNG. So education is a top priority for the Government of PNG along with health, law and order and infrastructure maintenance.

The government's vision is to upgrade the education system and the skill level of the population through greatly improved access, quality and relevance. The four main programmes are: access and expansion, quality and relevant education, literacy and awareness, and higher education. Specific priorities include basic education and literacy, TVET, secondary education and open learning, and tertiary education.

Education reform, commenced in 1993, was a result of many years of consultation and planning. It brought about a restructuring of the system and a reform of the curriculum. A National Education Plan (1995 – 2004) and 20 provincial education plans, guided by the government's medium term development strategy, were put in place. The current *National Education Plan 2005 – 2014, Achieving a Better Future,* builds on these plans. The new plan is nearing completion.

The vision for the next ten years is integral human development achieved through an affordable education system:

- that appreciates Christian and traditional values
- that prepares literate, skilled and healthy citizens
- that concentrates on the growth and development of each individual's personal viability and character formation
- that can contribute to the peace and prosperity of the nation.

TVET in PNG

Snapshots of TVET in PNG

The vision for the TVET sector is that of self-sustaining institutions under an independent regulatory authority. The TVET system is designed to train an appropriate workforce for employment in the formal and informal sectors. It will also train for self-employment. It will have linkages to the National Apprenticeship and Trade Testing Board and other registered training providers.

Vocational training has a long history in PNG with missionaries in the early 1900s training local people in job skills. After independence in 1975, the PNG national government was responsible for technical colleges and vocational training centres. In 1978, the national government gave powers to the provincial governments to manage and control all forms of education below Grade 10. This included TVET. In their early developmental stage, technical colleges offered trade training through technician courses to provide employees for the formal employment sector. Vocational centres offered basic courses for primary school-leavers who were unable to find employment or secure places in high schools. These vocational centres conducted formal and non-formal training courses. The development of the curriculum was basically left to the teachers themselves.

The technical and vocational streams were combined and TVET came into being in 1999 after a process of collaborative planning, The purpose of TVET was to address the concerns of employers, industry and the community. TVET had not been meeting the needs of these stakeholders. Additional concerns included:

- the high cost of programmes
- the fact that 90% of school-leavers and drop-outs had insufficient skills to move on in life
- the inequality of participation between males and females
- the rigidity of the programmes offered.

Today the delivery of TVET is conducted in seven technical and business colleges and 130 vocational training centres. These formal providers are both public and private and offer non-degree courses taught by trained TVET teachers. The colleges and centres are the prime responsibility of the provincial government in which they are situated, but this responsibility is shared with the National Department of Education. TVET teacher training is provided in one of PNG's nine teacher training colleges and at the University of Goroka.

Outside the formal system, non-formal training programmes are conducted by non-government organisations offering short courses that cater for the training needs of the local community. Company-based training is another mode of

delivery. This training is provided by specific companies using apprenticeships or a supervised industry training scheme. A competency-based approach to training has become a policy in training delivery and curriculum development.

The latest TVET policy was launched in April 2006. It charts a new direction for technical and vocational training in PNG. The policy aims to make TVET more responsive to global changes and to PNG's social and economic development programmes. The focus is on TVET supplying courses and graduates that match the skill demands of local industry and the local community. To do this, however, the existing twenty- to thirty-year-old training programmes need radical reformation. Modern TVET is about the world of work and therefore there is a need to understand the jobs and the skills required to deliver appropriate training programmes.

The role of TVET in secondary schools

In recent years there has been increasing demand for the establishment of technical high schools and vocational secondary schools. The role of TVET in PNG's secondary schools was addressed in guidelines in 1999. However, the emergence of different titles has caused some confusion about the status of the institutions. This needs to be further clarified with all stakeholders. The development of appropriate curriculum policies and programmes also needs clearer definition.

The development of desirable attitudes to TVET in secondary schools also needs addressing. Students, teachers and parents need to be convinced of the value of TVET in the secondary school. All parties should be made aware of the value of technology in their daily lives and of potential career pathways through TVET. The availability of continuing TVET education after secondary schooling should be canvassed. To achieve this end, secondary school education should provide effective preparation for those proceeding to the world of work, either as wage employees, as self-employed workers or entering higher TVET studies. Secondary schools should not have as a sole purpose the preparation of students who want to move on to academic or professional education in the tertiary sector. As a matter of urgency, PNG needs to move actively toward policies that integrate skills development in basic education programmes, particularly at the secondary level.

The changes in society and the world of work place pressure on secondary schools to consider new approaches to training. Just how TVET might be incorporated into the secondary school curriculum is a challenge. I believe it could be easily addressed by utilising the national TVET modules that are based on industry standards. The future TVET modules and courses at the level of National Certificates 1 and 2 could be adapted without any difficulty into the Year 11 and 12 curricula. For details of the National Certificates 1 and 2 see Table 1. How these qualifications may work out in practice is illustrated in Figure 1.

Figure 1 Possible PNG TVET qualifications transferable to Years 11 and 12

Levels	Metal Fabrication Occupations	Possible Qualifications
Level 1	λ Machine operator (simple, single process) λ Handy person	National Certificate 1 in Metal Fabrication / Welding
Level 2	λ Machine operator λ Trades assistant λ Repairer	National Certificate 2 in Metal Fabrication / Welding
Level 3	λ Welder trades person λ Fabricator trades person λ Production team leader	National Certificate 3 in Metal Fabrication / Welding
Level 4	λ Welding inspector λ Welding supervisor	

PNG is developing a national qualifications framework for TVET. The framework will provide a unified standards-based system of qualifications in the TVET sector. It could also cater for TVET courses/qualifications in the secondary school sector. The framework will strengthen education and work pathways from schools to TVET within the TVET sector, and TVET to higher education.

Table 1 PNG National TVET Qualifications Framework

Level	Knowledge and skills	Application	Responsibility
NATIONAL ADVANCED DIPLOMA	Knowledge and skills that: • are technical or procedural and conceptual, with significant underpinning theory and with some strategic aspects	Applied in contexts that: • are wide ranging, unfamiliar and/or unpredictable • involve non-routine, complex issues which are addressed using substantially adapted processes	In conditions that require: • a considerable degree of judgement, planning and management of self and/or others • minimal guidance and direction
NATIONAL DIPLOMA	Knowledge and skills that: • are technical and procedural with substantial conceptual aspects	Applied in contexts that: • are mostly unfamiliar and/or unpredictable • involve mainly non-routine issues which are addressed using established processes which require interpretation and/or adaptation	In conditions that require: • judgement, planning and organisation of self and/or coordination of others • limited guidance and direction
NATIONAL CERT. 4	Knowledge and skills that: • are conceptual and technical with some procedural aspects	Applied in contexts that: • unfamiliar and/or unpredictable but defined in range • involve routine and non-routine issues which are addressed by applying set processes with some variations	In conditions that require: • judgement, discretion and organisation of self and/or some responsibility for others AND/OR • broad guidance and direction
NATIONAL CERT. 3	Knowledge and skills that: • are conceptual and/or technical	Applied in contexts that: • are familiar and predictable with some unfamiliar or unpredictable aspects • involve generally routine issues which are addressed by selecting from a number of set processes	In conditions that require: • some judgement or discretion and organisation of self and/or others AND/OR • general guidance or supervision
NATIONAL CERT. 2	Knowledge and skills that: • are concrete or factual, with some conceptual and/or technical aspects	Applied in contexts that: • are limited in range, familiar and predictable • involve straightforward, routine issues which are addressed by set processes	In conditions that require: • limited judgement or discretion and organisation of self AND/OR • close support and supervision
NATIONAL CERT. 1	Knowledge and skills that: • are limited in range and manual or factual in nature	Applied in contexts that: • are limited in range, highly familiar and repetitive • involve straightforward, everyday issues which are addressed by simple agreed processes	In conditions that require: • minimal judgement or discretion and organisation of self AND/OR • a high level of support and direct supervision

The 2006 TVET reforms have focused on curriculum development and the formation of national TVET modules. The modules are based on industry standards and packaged into courses aligned with the qualifications framework. The future TVET qualifications framework has six levels of qualifications that are shown in Table 1. The table provides descriptions of the knowledge and skills, the kinds of study or workplace contexts and the level of responsibility and/or independence required to complete tasks that are typically associated with outcomes for each qualification. The national certificates are aligned with the current Australian Qualifications Framework.

Conclusion

PNG is well aware that there is no one model of incorporating TVET education into the secondary school curriculum that will suit all Pacific Island nations. Local contexts, cultures and situations differ; all countries must find a solution that suits their needs. In PNG our education system is currently unable to provide places for those completing secondary education. We believe that, if we integrate both academic and TVET courses into the secondary school curriculum, we will be able to equip more students with skills that will enable them to enter the workforce or continue to higher education, depending upon their aptitudes and interest.

8

The status of TVET in Pacific schools and communities

Debbie T Sbal (Palau) Eci Naisele (Fiji) Clarence Samuel (RMI) Stevenson Fredrick (Pohnpei)

Introduction

To ensure that TVET in any Pacific Island nation functions optimally, we believe that these nine factors are important starting points:

- a clearly articulated, realistic TVET policy aligned with government strategic plans for education
- professional human resource management that includes the upskilling of trades-people and teachers to enable them to deliver TVET programmes effectively
- excellence in teaching and learning processes
- appropriate infrastructure development that should include vocational workshops, well-equipped classrooms and laboratories, equipment and tools
- availability of local natural resources
- sufficient secured funding from local sources and overseas
- community awareness of TVET
- good industry-school partnerships and standards
- a relevant TVET curriculum that is closely monitored and reviewed.

Using these factors, this chapter includes a discussion of key issues confronting TVET educators in the Pacific and offers recommendations that our group believe could raise the profile of TVET in secondary schools and ensure that it becomes an integral part of the secondary school curriculum. We also describe step by step how TVET can be introduced into the secondary school curriculum, drawing on the personal experience of one of our group members who has been part of this process. Finally, we offer our vision for TVET in secondary schools and suggest an alternative pathway for effectively embedding vocational education in the secondary school curriculum.

Key issues

TVET policies and reforms

To reform educational policy on TVET it is necessary to review what already exists. If TVET is very low on a country's list of educational priorities, stakeholders must make their voices heard as they highlight the importance of TVET and the socio-economic benefits it can have for a Pacific Island country.

The next step is to ensure that policies on TVET education are relevant and that they are aligned with government plans for the development of the country. Case studies of successful TVET programmes in secondary schools should be found and presented to Ministers for Education and other members of parliament, especially those concerned with economic development. The importance of TVET and the need to vocationalise the secondary school curriculum should be spelt out clearly and concisely. The consequences of not doing so should be made plain.

A recommendation to policy makers should advocate that it be compulsory for all secondary students to undertake both academic and vocational education courses. The important advantages of secondary students leaving school with vocational and academic education and training should be documented.

Curriculum

A relevant curriculum based on the vocational needs of a Pacific Island nation can be developed. For example, many Pacific Islands are in need of better marine studies programmes that equip students to live and work in a marine environment.

We suggest a *water through sand* approach. Vocational education should not happen in isolation but can permeate every area of the curriculum. By vocationalising the curriculum from primary to tertiary level, students moving out of formal education at whatever level will be far more likely to avoid unemployment because they have been prepared for the world of work.

Every school will need to take a careful look at exactly what sort of TVET courses are appropriate for their students. This will be determined, in part, by the availability of local resources, the local labour market and the aspirations and capabilities of the students. Courses should be prepared on this basis. As a consequence, TVET programmes will vary significantly from school to school. For example, a school close to a tourist destination may choose to offer courses in the hospitality industry, while a school near a busy port could offer TVET programmes associated with navigation, marine engineering and boat-building.

Students need to be able to choose TVET programmes with open, flexible pathways from primary to secondary and on to tertiary and industry levels. Too often there is little or no articulation between these sectors, making it difficult and sometimes impossible for students to progress on their chosen TVET pathway.

Upskilling teachers

TVET teachers must keep up with the vocational area in which they teach as well as constantly improving their methods of teaching. Therefore, there must be professional development opportunities. We suggest that summer courses be offered to upgrade teaching skills. Alongside these, there should be summer training programmes for teachers to upgrade their skills in workplace industries. On-line training would be a possibility for some aspects of professional development. However, real participation in the industries in which they teach should not be overlooked.

We strongly advocate incentive packages to ensure teachers do not get stuck in a rut. Salary increases could be offered for teachers who perform well. Easy, regular opportunities for TVET in-service training, such as short-term up-skilling workshops, could be an important incentive. Special awards could be presented to the best TVET teachers of the year, to outstanding TVET students, to supportive parents and to co-operative industries. In this way, support is rewarded and TVET programmes are enhanced.

Teaching methods

We suggest that the day-to-day teaching conducted by TVET teachers needs review and revitalisation. Teaching can too easily become uninspired, monotonous and boring. The delivery of effective teaching and learning in both theory and practice is a must. Ways of revitalising tired teachers and encouraging them to be enthusiastic must be explored.

Infrastructure

Most Pacific Islands struggle to have proper infrastructure for TVET. As a consequence, there is little incentive for teachers to teach well. Adequate TVET facilities in the form of appropriate buildings, adequately equipped workshops, laboratories and necessary tools are the scaffolding upon which successful TVET programmes can be mounted.

Resources

TVET teaching/learning resources are often in short supply. For optimal learning outcomes, TVET teachers need adequate stationery, sufficient raw materials, up-to-date textbooks and a range of suitable teaching aids to deliver their courses.

Funding

Without money, effective TVET courses cannot be delivered. Most courses are expensive to deliver well. It is essential to secure funding from the government, from local private donors and from overseas donors.

TVET awareness

It is surprising how little is known out in the community and in many secondary schools, about TVET possibilities. Awareness programmes must start with ourselves in our own country, in the educational context in which we work. Having comprehensively informed ourselves, we need to spread this knowledge throughout our country's schools. We need to inform teachers, students, management and administrative staff, traditional and church leaders, parents' groups and mothers' clubs.

The wider community must also be informed. Community awareness programmes that include visits to vocational schools and colleges, open days, public meetings, brochures and handouts, television and radio broadcasts, and informative articles in the local print media should be mounted. Media stories can be personal and popular; success stories on the radio, on TV or in the newspaper are viewed, heard or read and remembered by Pacific Islanders who usually know of or are related to the central character. Web pages may be appropriate in some Pacific Islands where electronic communication is widespread.

Parents need to be made more aware of what can be offered to their children. They need to be convinced that TVET offers real employment opportunities, equal to, and sometimes far more appropriate for their child, than what may be available at the end of a purely academic programme. The good news of TVET needs to be disseminated to parents by home visits, parents' days, and TVET days where champion TVET personnel, including staff and students, speak about their TVET programmes.

The aim of developing strategies to promote public awareness about TVET is both to inform and to change people's attitude to TVET. They need to view TVET as an exciting, positive, real-world pathway for anyone who cares to start walking in that direction. It is about educating people to see the potential and giving people the enthusiasm (and sometimes the courage) to take up vocational studies.

TVET providers must also publicly address the issue of gender equity. All TVET courses should be available to both male and female students. We need, for instance, to bypass the thinking that only men should undertake plumbing and that only women can weave. Sometimes in-country cultural norms override gender equity; cultural sensitivity is required in such situations.

Industry partnerships

TVET courses need practice opportunities in real workplaces. Good industry partnerships are vital. Arrangements for TVET students to do work attachments, internships and work placements in industry will make a TVET course come alive. Trainers will need to liaise with industry partners to ensure that that all industry requirements are met. These will include OHS, insurance coverage, parent waivers and consent letters. Arranging work placements will need a degree of flexibility from TVET providers and industry. It may take the form of one or two days a week, it may involve a block of time or it may be held during holidays, at weekends or even in the evening. A mutually convenient time for workplace practice must be set aside by workplace personnel and trainers. Overall, commitments from all stakeholders, including businesses, industries, trainers and service providers, parents, communities and donors, must be brokered if TVET programmes are to succeed and be sustained. Sustainability is a key issue.

Standards

Without a clearly articulated national qualification framework and an accreditation council to implement the framework, standards will not be maintained and TVET will be weakened. A national qualification framework managed by a recognised accreditation council will allow order for all training providers in terms of the value of their qualifications and the competencies of their graduates. It will also allow employers to validate the qualifications possessed by job seekers.

To assist in the development of national standards, a taskforce on employment creation can raise awareness about TVET in the eyes of its country's leaders. Its role would include the identification of key performance indicators to monitor the job opportunities for job seekers. The taskforce should also liaise with training

providers about job opportunities in industry and how appropriate TVET courses can be set up to provide pathways for students who wish to train for these jobs.

How might a secondary school integrate TVET into its curriculum?

Drawing on successful case studies that we have observed and experienced first hand, we suggest the following practical steps be taken by any secondary school that wants to integrate TVET into its curriculum. These suggestions are presented from the perspective of the principal, though it is suggested that these steps will be taken in collaboration with appropriate staff, industry representatives and other stakeholders. Representatives from the potential or actual student body should also have their say.

Step 1 Develop an action plan that clearly defines the task, the time-frame, the people responsible, the resources and the costings. It is wise to monitor evaluate and review these elements constantly.

Step 2 Look carefully at the vision or mission statement of the school to see how TVET can be encompassed within the existing structures.

Step 3 Review workable ways of integrating TVET into the existing curriculum.

Step 4 Involve stakeholders in the review process.

Step 5 Identify career pathways/courses that are relevant to the local community. Build on what already exists. This will be linked to geographic locations and the resources available.

Step 6 Inform the Ministry /Department of Education of the needs of the school by submitting the recommended revised curriculum.

Step 7 Systematically develop an awareness programme to inform all members of the school community, including teachers, students and staff. Actively inform parents and the wider community using the media and information days. Visit stakeholders to inform them of the proposed changes. The aim is to publicise and promote the proposed TVET programme to get rid of any stigma that may be attached.

Step 8 In order to sustain the TVET programme, the whole process and the steps within it must be monitored and reviewed systematically to ensure continuing effective delivery.

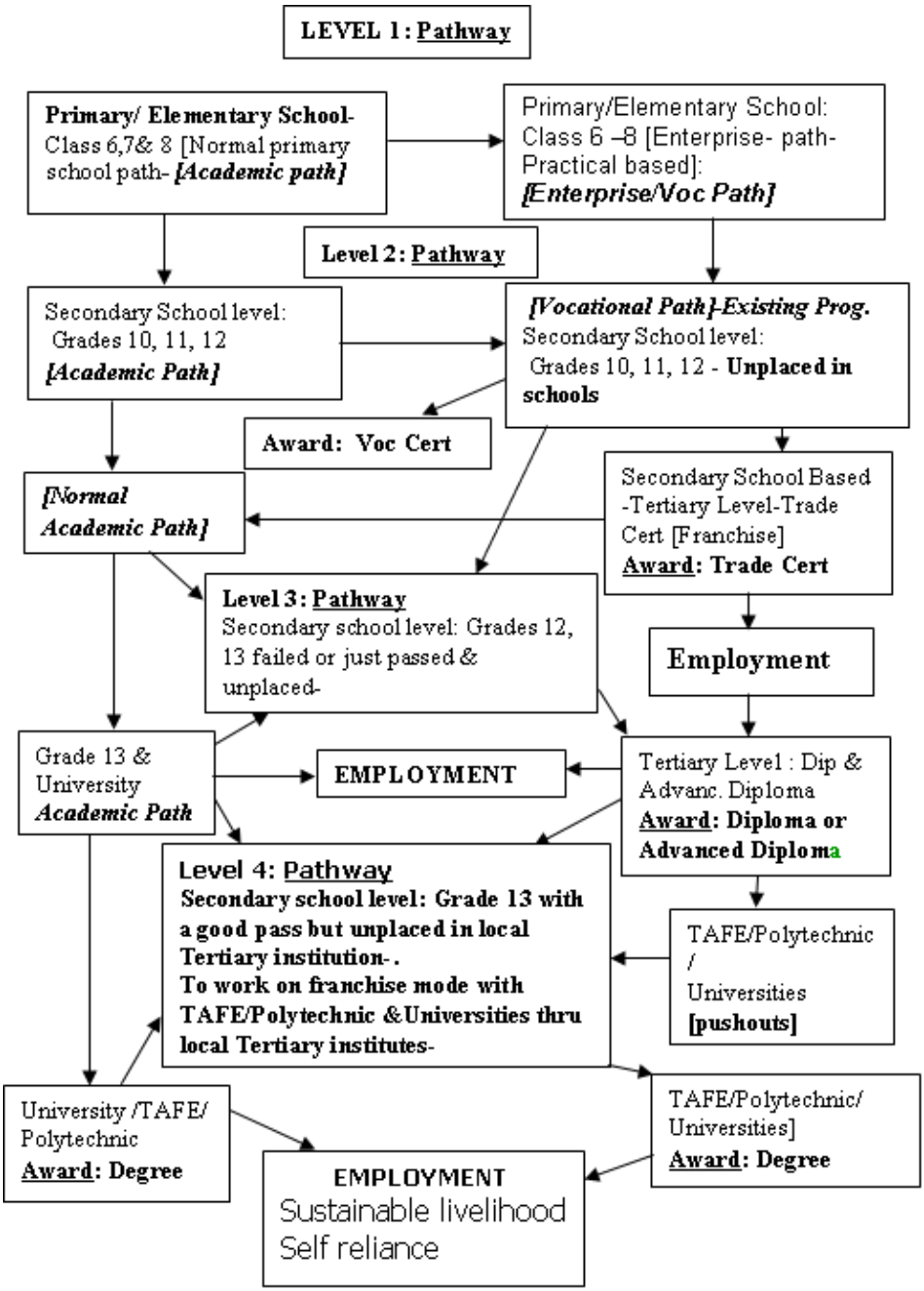
Lastly, we present you with two TVET pathway models, both of which have as their end product employment for the school graduate. The models, which are on the next two pages, are drawn from the successful Palau experience of including TVET in the secondary curriculum. Either of these models, with adaptation, could be implemented in other Pacific Island countries.

Conclusion: our vision for TVET in secondary schools

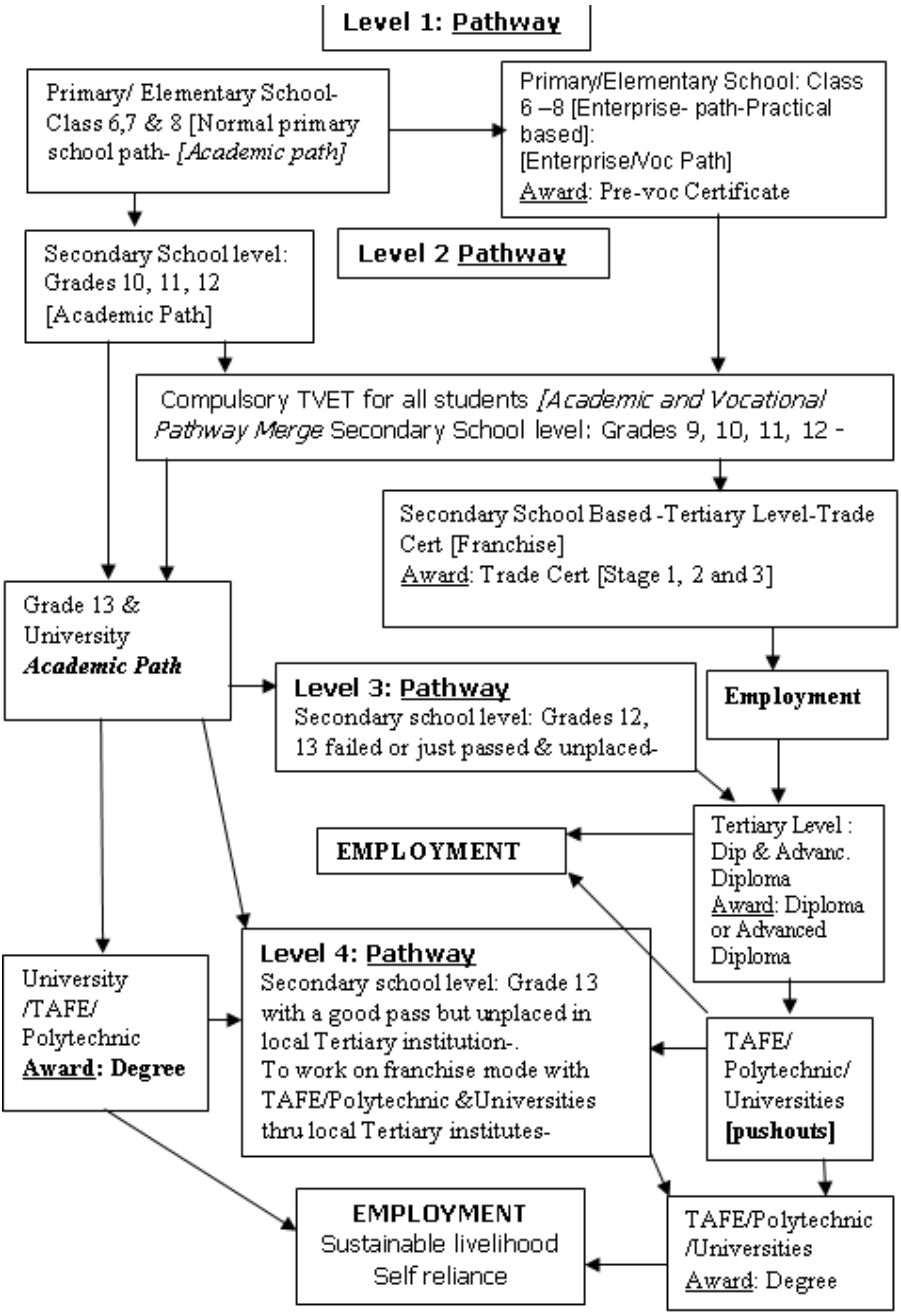
We are convinced that TVET can be effectively implemented in secondary schools by taking the steps outlined above. It has succeeded in Palau and can be repeated elsewhere. We agree with our keynote speaker that TVET is the master key to development. We would like to suggest that this TVET master key has the capacity to open and close doors. This concept is spelt out in our vision statement:

If education is the key to development, then TVET is the master key that will open the doors to employment opportunities, sustainable livelihoods and self-reliance—and close the doors to adversities.

Model 1


LEVEL 1: Pathway
Primary/ Elementary School- Class 6,7& 8 [Normal primary school path- [Academic path]
Primary/Elementary School: Class 6 –8 [Enterprise- path- Practical based]: [Enterprise/Voc Path]
Level 2: Pathway
Secondary School level: Grades 10, 11, 12 [Academic Path]
[Vocational Path]-Existing Prog. Secondary School level: Grades 10, 11, 12 - Unplaced in schools
Award: Voc Cert
[Normal Academic Path]
Secondary School Based -Tertiary Level-Trade Cert [Franchise] Award: Trade Cert
Level 3: Pathway
Secondary school level: Grades 12, 13 failed or just passed & unplaced-
Employment
Grade 13 & University Academic Path
EMPLOYMENT
Tertiary Level : Dip & Advanc. Diploma Award: Diploma or Advanced Diploma
Level 4: Pathway
Secondary school level: Grade 13 with a good pass but unplaced in local Tertiary institution-.
To work on franchise mode with TAFE/Polytechnic &Universities thru local Tertiary institutes-
TAFE/Polytechnic / Universities [pushouts]
University /TAFE/ Polytechnic Award: Degree
TAFE/Polytechnic/ Universities] Award: Degree
EMPLOYMENT
Sustainable livelihood
Self reliance

Model 2


Level 1: Pathway
Primary/ Elementary School- Class 6,7 & 8 [Normal primary school path- [Academic path]
Primary/Elementary School: Class 6 –8 [Enterprise- path-Practical based]:
[Enterprise/Voc Path]
Award: Pre-voc Certificate
Secondary School level: Grades 10, 11, 12
[Academic Path]
Level 2 Pathway
Compulsory TVET for all students [Academic and Vocational Pathway Merge Secondary School level: Grades 9, 10, 11, 12 -
Secondary School Based -Tertiary Level-Trade Cert [Franchise]
Award: Trade Cert [Stage 1, 2 and 3]
Grade 13 & University
Academic Path
Level 3: Pathway
Secondary school level: Grades 12, 13 failed or just passed & unplaced-
Employment
EMPLOYMENT
Tertiary Level : Dip & Advanc. Diploma
Award: Diploma or Advanced Diploma
University /TAFE/ Polytechnic
Award: Degree
Level 4: Pathway
Secondary school level: Grade 13 with a good pass but unplaced in local Tertiary institution-.
To work on franchise mode with TAFE/Polytechnic &Universities thru local Tertiary institutes-
TAFE/ Polytechnic/ Universities
[pushouts]
EMPLOYMENT
Sustainable livelihood
Self reliance
TAFE/Polytechnic /Universities
Award: Degree

9

Building traditional knowledge and skills into the TVET curriculum

Sinton Soalablai (Palau) Hanson Sigrah (Kosrae) Bernard Grundler (Nauru) James Poihega (Niue)

Introduction

The question our group reflected on during this workshop was one that provides a significant challenge for TVET educators across the island nations of the Pacific. So often our TVET courses in secondary schools and in post-secondary colleges are built solely on the notion of preparing students for vocations that help nations to keep up with the global world. Traditional knowledge and skills that have been the backbone of these societies since the beginning of time have been largely overlooked in the rush to become global. We acknowledge that keeping abreast of the global is important, but we argue that this must not be at the cost of sacrificing the highly valued traditional knowledge and skills that are unique to each Pacific Island.

What do we mean by traditional knowledge and skills?

Our group, whose origins span the north and the south Pacific, agreed that these three components make up the traditional knowledge and skills of Pacific Island communities:

- local or native knowledge and skills that are passed on from generation to generation through systems of apprenticeship, mentoring, and verbal/oral presentations
- any knowledge and skill that has been the customary way of doing things in a society, that may have been handed down through the generations by theory, observation, practical application and, more recently, by documentation
- basic knowledge and skills that are passed on from our ancestors to support and to provide for survival needs in our society.

What traditional knowledge and skills are woven into TVET?

Reviewing our own countries and our local knowledge and experience of the Pacific, we concluded that the following cultural inclusions could be noted.

We concluded that Niue had no specific programmes or local content in their secondary TVET programmes, though occasionally a teacher may include a local example in an *ad hoc* manner. Except for some agricultural programmes, courses were purely academic.

Apart from Nauruan Studies and visits by Nauruan students to local elders in their homes to learn local skills on an *ad hoc* basis, there is no systematic inclusion of traditional knowledge and skills in the TVET curriculum in Nauru.

In Kosrae, Palau and Tonga, some traditional knowledge and skills are included and integrated into the secondary school TVET curriculum.

How local experts and community elders are used

In Niue, traditional knowledge is passed on in a wider community setting, rather than directly in formal TVET programmes.

Nauru has a situation where some elders are unwilling to pass on traditional knowledge and skills for cultural reasons. Some Nauruan elders are not comfortable in the formal education setting with its westernised classroom and western modes of teaching and learning. They prefer the informal setting out of the school context, where it seems more natural to communicate knowledge and skills to the younger generation. This is referred to in Nauru as *torogab*.

In Kosrae most traditional knowledge and skills are integrated into the secondary school TVET curriculum as well as into the social studies curriculum.

Community experts in Palau are widely used across the curriculum, especially in Palauan Studies. Teachers readily involve these traditionally skilled community members in their lesson plans and other activities. The traditional experts play an integral part in the teaching of TVET programmes in the secondary school.

Most Tongan secondary students come into contact with traditional teachers at some time in the TVET curriculum.

Our vision

In response to the question: *What is your vision for incorporating traditional knowledge, skills and wisdom into the teaching of TVET programmes?* we believe that all students need to be engaged with their hands (skills), their head (knowledge) and their heart (passion). We as teachers need to know where we are going and must assist all students in making that vital connection between the hands, the head and the heart; skills, knowledge and passion. In short our vision is that *all students will become knowledgeable in traditional knowledge and skills and will use them successfully in life.*

Syncretising local knowledge, skills and wisdom with the global world

The challenge to meld or syncretise or marry local knowledge, skills and wisdom with the best ideas and practices of the global world is one that we must accept and not back away from. We believe we can use modern tools as technological aids for building traditional artifacts and for fulfilling everyday needs; chainsaws can

be used to build canoes and electric drills and jackhammers can be used to build houses that incorporate traditional designs. We can also use modern materials to apply traditional skills. Thus, we can apply *tapa* designs to woven cotton cloth and we can make shell necklaces for tourists with metal clasps and imported wire.

We need to learn to apply the skills of successful marketing in a global economy. We must become thoroughly familiar with both the obvious and the hidden skills of entrepreneurship to compete in the world beyond our island nations.

To ensure the continuity of our cultures, we must preserve the local knowledge, wisdom and skills by systematic written documentation, rather than depending solely on oral transmission from generation to generation.

The challenges

Underlying most of the challenges is the unavailability of sufficient funding. Financing our vision to ensure that traditional knowledge, skills and wisdom are incorporated into every Pacific secondary school TVET programme will be an ongoing challenge. Costs are high and increasing, but we must think laterally and creatively about the question of securing enough funding to ensure cultural continuity.

Resistance to change is another complex problem we face. The western mode of teaching and learning, now so entrenched in our Pacific schools, has become the accepted way forward for many teachers, parents and students. They, together with top educational managers and educational employers, are resistant to change. A significant number of these educators believe that the incorporation of traditional, knowledge, wisdom and skills into a secondary TVET programme is irrelevant. Our challenge is to convince the resistors that, by putting together the best of the global and the best of the local, better outcomes will be produced for their nations. This will ensure that succeeding generations can stand proudly as local citizens with an intact, unique culture of their own and also as global citizens, comfortable with the technologies of the global economy. Becoming global does need to happen, but not at the cost of relinquishing the traditional knowledge, wisdom and skills of one's culture.

The fact that local wisdoms, skills and knowledge are dying with the deaths of elders is a frightening reality. The challenge is to catch this wisdom by engaging with the elders and systematically documenting it. The urgency of this must not be overlooked.

Some Pacific nations find that some of their elders who are repositories of traditional knowledge are not willing to share this knowledge. There is no simple solution to this concern, but sensitive, cultural pathways may need to be created by senior, culturally appropriate people in an effort to preserve this unique and infinitely precious source of wisdom.

Impediments to progress

The challenges outlined above are delaying the implementation of culturally appropriate curricula in the TVET sector. Programmes and activities need cultural content and culturally appropriate modes of teaching and learning. Teachers need encouragement and skills, as well as the mandate to use local knowledge in the TVET classroom.

Policy-makers' responses are often limited and delaying tactics are sometimes used, slowing down culturally important ways of doing things in secondary schools. Personal preferences and priorities by policy-makers often take precedence, preventing debate about future directions that could incorporate local knowledge with the global.

Teachers in the secondary TVET sector would need additional training or retraining to prepare them to syncretise the local and the global in their classrooms. This is expensive and so is not a priority when budgets are limited. We also believe that many teachers are so busy fulfilling examination requirements and completing set curricula that they are loath to change. Knowledge-sharing opportunities are limited or put off and teachers often are so taken up with personal agendas that issues of incorporating local knowledge, skills and wisdom in their teaching simply drop off their priority list.

Pathways forward

In spite of significant challenges, we firmly believe there are pathways forward for local wisdom, knowledge and skills to be incorporated in the secondary school TVET curriculum. If programmes are to be based on a strong foundation of local values and cultures, our group suggests that educators could include these things in already existing arts and humanities courses, as well as health and physical education courses. However, by carefully sifting out cultural pathways through the recognition of strong local ethics and values, all areas of the curriculum, particularly TVET programmes, could be impacted.

We believe that the local community that surrounds the secondary school can assist directly in this. First, resource people can be drawn into the school from the community to be used in lessons. Teachers can begin to use traditional examples in their lessons and, in so doing, encourage students to draw examples from their own experiences of community and village life. We also suggest that field trips into the community, meetings with community members, and participation in local ceremonies can bring cultural elements alive. Attention can be drawn by teachers to cultural role models in the wider community, and an attitude of respect can be cultivated for people who are the custodians of traditional knowledge, wisdom and skills.

Traditional ways of self-sufficiency and self-reliance

We believe that an approach that focuses on broader life skills can be used to advantage in a secondary TVET curriculum. We would adopt a module approach that takes small steps towards attaining skills. For example, most Pacific Island nations depend greatly on the sea for their livelihood. TVET students could learn fishing skills that ranged from traditional ways of netting and spearing fish from the shore and canoes to that of line-fishing from power boats.

A second approach that could be employed is that of thematic learning with rich tasks. Students could, for example, plan and implement an integrated market day, using the model of their village or town market as a starting point. Learning from planning, preparing and running a traditional market day would be a multifaceted

learning experience with students learning how to manage the logistics of setting up the day, organising the finances, preparing items for sale, relating to buyers, marketing and so on.

We also recommend the use of independent work environments where students can undertake individualised tasks alongside people who have specialised traditional skills. In this way, students may learn how to build a traditional canoe in the village with local experts as their guides and mentors. The process of active experiential learning outside the classroom allows them to analyse and understand the process in real life. Researchers have proven that this sort of learning is far more effective than classroom-based learning.

Some guidelines for culturally inclusive traditional knowledge and skills

As a group we have come up with a number of real life suggestions of just how traditional knowledge, wisdom and skills might be included in the secondary school TVET curriculum. They are ideas that build on existing cultural practices in most Pacific Islands. As they are beginning suggestions only, we hope that teachers can expand and develop these ideas much further and find creative ways of using them in their teaching and learning.

Performing arts — Singing, dancing, chanting and story telling in the vernacular
Carving — House-building, canoe construction and story board making
Weaving — Making bags, ropes, mats, baskets, maps and fabrics
Ceremonies, rituals and customs — Weddings, marriages, births, funerals, titles, passages of life, black magic
Values and ethics — Respect, tolerance, communication, family, community, cooperation, beliefs
Naming/classification — Flora and fauna, calendars, counting
Maritime — Fishing, sailing, communication, navigational maps, calendars
Farming — Coconut toddy, fish and seafood, crops, animals, trees, fruits
Recreation — Games, hunting, bird catching
Health — Local medicine and massage
Cooking — Food varieties, recipes, food preservation

Making traditional knowledge and skills attractive

For many students, even teachers and parents, the grass can be greener over the global fence. Who wants to weave a palm basket when you can use a plastic bag? Who wants to make toddy when canned coke is a dollar at the store? Who wants local medicine when antibiotics are readily available at the local clinic? Who wants fish and root crops from the *lovo* or the *umu* when McDonalds offers instant burgers and chips? And so the list could go on!

We will have to make changes to our teaching if we are to stem this flow gushing towards a sea of global intrusiveness that seems to be taking our younger generation with it. Our suggestions are simple and accessible.

- Have fewer external examinations, engage students in practical projects that are assessed continually with formative short tests.
- Use the *talanoa* teaching method.
- Stress hands-on learning by doing, rather than theoretical chalk and talk approaches.
- Have an income-generating focus.
- Participate in community projects.
- Introduce modular based learning.
- Use incentive programmes.
- Recognise and celebrate effective teachers and learners.

Conclusion

Please take our suggestions to heart and build on them. They will grow like the biblical story of the five barley loaves and two fishes that fed a multitude. We are convinced that the inclusion of traditional knowledge and skills in the TVET curriculum in our Pacific Island secondary schools can strengthen our cultures and enable us to reap the best of the local and the global. Without this inclusion we are much the poorer.

10

TVET for self-sufficiency, self-reliance and self-employment

Kiniosi Edmond (Chuuk) Joe Logha (PNG) Villiany Thomas (Palau) Peter Hageleisa (Yap)

Introductory overview

To get moving on this topic, we asked the question: If our TVET programmes are to produce self-sufficient, self-reliant and self-employed young men and women, how does this fit into the world of work? We agreed that a wide range of creative work initiatives should be explored in the community. The TVET training courses, both at secondary school and beyond, should bring the training right into the community to show students and stakeholders their relevance and their potential in the workplace. For example, carving and art classes held in schools could also be held from time to time in the craft markets where these artifacts are sold to tourists and others.

Expanding this idea further, we suggest that viable economic activities should be identified: workplaces where students would have a positive opportunity to become

self-sufficient, self-reliant and even self-employed. TVET students could be given work experience in these locations. Examples that we identified included trade stores; shops, including food outlets and coffee shops; and local markets where local produce is sold. In Pacific societies it is quite probable that many students have already experienced and even worked in these places because parents and extended families could have a livelihood in these industries. Work connections established through families could be a useful starting point for TVET trainers.

Seed money provided to trainees at an appropriate stage in their training could promote self-reliance. With the support of TVET teachers, students could learn how to manage their seed money responsibly and make it grow in the real world of work. Fish farming and agricultural initiatives have been successfully carried out by students who have been provided with seed money and management support.

Students with entrepreneurial talents should be encouraged, with the support of their TVET trainers, to try their hand in the real world of work. They could start small and, as their management skills improve, could move on to more challenging entrepreneurial ventures. For instance, experienced entrepreneurs have been known to start by selling ice cream and betel nut to locals. The expanding tourist industry in some Pacific countries offers exciting entrepreneurial opportunities.

Recruiting clients for TVET training

Although many of our TVET clients are school leavers, other client groups are significant and should be encouraged to take up TVET courses. Vocational centres and technical colleges find that they are enrolling many young men and women who have not succeeded in their secondary school studies. They are the drop-outs or, as many now refer to them, the push-outs, of our school system who have not coped with the academic demands and the rigorous examination systems that are so much a feature of Pacific Island secondary education. It is this client group that can benefit from a TVET training system that will equip them for self-sufficiency, self-reliance and self-employment. We believe that we should also open the doors wide for out-of-school youths and mature men and women seeking vocational qualifications.

Our vision

Considering the potential diversity of clientele for TVET courses that promote self-sufficiency, self-reliance and self-employment, we envisage that vocational training must promote and provide integral human development for lifelong living through an affordable and flexible education system. We believe the key concepts in this vision statement are *lifelong, affordable* and *flexible*.

If Pacific Island societies can provide flexible, affordable, lifelong TVET training opportunities for its peoples, this will contribute in a significant way to peace, prosperity, harmony and nation-building. Populations and individuals will increasingly become self-sufficient and self-reliant and there will be opportunities for self-employment if people choose not to work in the public or private sector.

From rhetoric to reality

Talk must lead to action. Mission statements that are succinct, smart and relevant must be created. We are convinced that all TVET programmes offered in secondary schools and TVET colleges that prepare trainees for the world of work should:

be accessible to all who wish to enrol
be of high quality
be relevant and effective
provide lifelong learning opportunities.

TVET objectives

An extensive range of programmes and courses offered by TVET trainers is available in the secondary and tertiary sectors of Pacific Island countries. We have formulated three objectives to assist in the determination of strategies that will encourage self-sufficiency, self-reliance and self-employment.

Objective 1

Each Pacific Island nation must, through its TVET training programmes, consciously skill the person to be a capable, creative, productive and useful member of that society.

To achieve this objective TVET trainers, with the backing of governments and policy-makers, must draw on the traditional values and ways of doing things in that society. Assessments of economic and entrepreneurial opportunities should be made in each country and TVET courses developed to train local people to take up these positions in a culturally informed way. TVET courses should become more closely connected to the immediate and future needs of the local market, while at the same time being sensitively attuned to the deep cultural values and traditions of that society.

We also believe that, by incorporating societal values into the school curriculum at every level, trainees will graduate from TVET programmes with a greater understanding of how their society works and how they might make a significant contribution to it. Attention should be given to the personal development of every TVET trainee; personal talents and qualities should be affirmed and built on to help a student discover his or her own personal viability. Programmers should be aware of and able to support the character formation of each student, as this could be foundational in producing students who are self-reliant, self-sufficient and have the potential for self-employment.

How can these things be achieved? There are many stakeholders who have a vested interest in the success of TVET programmes. It is a wise move to explore the invaluable contributions they can make to the careers of trainees during their training and once they are in the workplace. Elders and other leaders in the community, for instance, can teach traditional ways of doing things and of living in the community. Values that hold a society together can be passed on and cultural practices such as dance and song can be enjoyed together. Key church elders and community leaders can provide ethical and moral values through their organisations, and local cultural centres can provide back-up and training for TVET teachers who can in turn implement them in their teaching.

Objective 2

Each Pacific Island nation must, through its TVET training programmes, provide trainees with skills for life and work locally, regionally and globally. In preparing

specific courses to achieve this objective, the Pacific way of doing things must never be overlooked. The cultural enrichment and economic benefit of indigenous learning must always be uppermost in the minds of TVET programmers and teachers. These factors must be integrated into the curriculum, both in its content and in its processes of teaching and learning.

The best strategies to achieve this end will be the development, writing and implementation of culturally sensitive, appropriate curricula. The use of systematic teaching techniques and methodologies in a culturally correct way will produce the best results. And, as mentioned previously, the development of life and work preparation programmes that are focused on skills determined by local demand will ensure that courses are relevant.

We believe there is an interconnection between the development of:

apprenticeship schemes
participation in seminars and conferences and
providing flexible and mixed mode learning opportunities and networking.

By actively working on each of these areas, and by using one to inform the other, TVET training and trainers will move towards producing graduates who are self-sufficient and self-reliant.

Objective 3

Each Pacific Island nation must, through its TVET training programmes, broaden each student's knowledge of the effective use of modern technologies.

Training students to become technologically aware and able is a must if they are to take their place in the global world, but this must not be done at the expense of ignoring their local environment and the ordinary things that make up their unique and valuable Pacific Island identity. Both avenues must be followed if vocational educators are to produce students who are self-sufficient, self-reliant and self-employable.

Specific examples of courses to engage students with modern technologies could include ICT, engineering, maritime studies, and topics related to the hospitality industry. Again, it must be emphasised that traditional knowledge and skills in these areas should not be overlooked as students engage with non-traditional, mainly western, ways of studying modern technologies. Ideally the two should go hand in hand. Suggested strategies to ensure the successful implementation of modern technologies are to:

broaden the curriculum
integrate modern technology into the teaching learning process and
strengthen the existing infrastructure in existing vocational institutions.

On-the-job workplace training is another way of broadening students' knowledge about how modern technologies are used in the workplace. If private businesses, industries and government workplaces could offer work experience to TVET students, there is no doubt that they will learn far more by this hands-on experience than by theoretical classroom learning about a wide range of issues, including the practical use of modern technologies. Getting local entrepreneurs interested and involved in TVET programmes will encourage students to follow their lead in the world of work.

Facing the challenges

In spite of the many good ideas and concepts that we have presented, we have not lost sight of the many challenges that confront the TVET system. In an ideal world we would like to think our suggestions could be implemented and that TVET graduates would immediately become more self-reliant and self-sufficient and that many would look to becoming self-employed. We see the need to identify the challenges and to confront them in such a way that, over time, our TVET system will change and improve. By addressing the challenges attentively, we believe that stronger programmes, ones that will have a lasting impact on the client's ability to utilise their skills, can be created.

Challenge 1: Too few resources

Because financial, human and material resources are always less than we need in

almost every Pacific Island country, the outcomes of TVET programmes are less than are hoped for by vocational training institutions. Governments and other funding agencies must be lobbied to give TVET a greater share of the funds available.

Challenge 2: Programmes too institutionalised

We believe that TVET courses must be tailored to suit rural and remote communities and that flexible approaches to teaching and learning must be applied.

Challenge 3: Lack of community support

Often stakeholders' needs are demanding. Creating a culture of support would produce better outcomes for the TVET sector.

Challenge 4: Limited facilities

Many vocational training institutions are inadequately equipped and so students are learning in unsuitable environments. Better buildings, infrastructure and facilities are required. This comes back to the issue of inadequate funding mentioned in Challenge 1.

Challenge 5: Students unmotivated

TVET trainers can assist students to see TVET training as a positive option and an exciting opportunity to become self-reliant, self-sufficient and self-employed. By showing enthusiasm and role-modelling good practice, TVET trainers can have a big impact on their trainees.

Challenge 6: Insufficient tools and equipment

This raises the question of scarce resources. One solution is to ask industry for support in kind. A more radical solution that some Pacific TVET institutions have successfully negotiated is the opportunity for students to do their practical training in the workplace, using the tools and equipment on site and working with employees as mentors and on-the-job trainers.

Challenge 7: Responding to community needs

Too often, TVET training programmes are not in line with the need for skilled TVET graduates in local workplaces. Training institutions seem to lack the capacity to respond to the demands of the community. Reasons for this lack of connection need to be established and ways to overcome this difficulty formulated.

Challenge 8: Good leadership and management required

Poor leadership and management of TVET programmes create a big stumbling block for trainees. It is critical for the ongoing operation of every Pacific Island vocational training institution that appropriately qualified, strong leaders are chosen and that they employ efficient management systems to ensure that trainees are served well.

TVET educators must give these challenges serious consideration in their own countries and work constructively to find appropriate solutions as quickly as possible.

Pathways forward

Our group strongly recommends the following TVET pathway programmes to the Ministers of Education in Pacific Island nations. We suggest that a variety of different schemes should be explored for our clients and that providers offer programmes that use mixed mode approaches tailored to the needs of their clients and the community.

Pathway 1: Work placements for out-of-school youths

Youths can be supported by active placements in industries and businesses. By attending local cultural centres and becoming involved in associated programmes, out-of-school youths can be encouraged to affirm and strengthen their cultural identity. We believe that this pathway should be mandated by each Pacific Island government through its constitution.

Pathway 2: Active vocational centres, technical colleges and cultural centres

These centres need to offer affordable, cost-effective training schemes that provide a pathway for clients to graduate with a recognised qualification. Centres should open their training schemes to clients of all ages. An open-door policy to all citizens should be put into practice.

Pathway 3: Networking

Vocational training institutions should market themselves through seminars and conferences, both to attract more clients and to create strong and supportive linkages and partnerships with NGOs, other donors and government departments.

Pathway 4: Short courses

Suitable short courses should be prepared by vocational educators to train clients in the community and in local villages. This creates more accessible learning for clients in their local community.

Pathway 5: Partnerships

Strengthening linkages and creating partnerships between TVET providers and all other stakeholders, both in the public and private sectors, will improve vocational education.

Pathway 6: Apprenticeships

Careful attention and planning should take place to develop apprenticeships. Specialised apprenticeship schemes that involve the TVET training provider working alongside businesses and industries, with some teaching on-the-job and some in the vocational college, are proven pathways to produce successful TVET graduates.

Pathway 7: Formal and informal training

All vocational education need not be delivered in the formal mode. Vocational education pathways through informal education, both in the private and public sectors, are possible and should be explored.

Categories of certification

Vocational training provision can involve study for as little as one to three weeks or as long as one to two years. After successful completion of these courses, short or long, students should receive a certificate that acknowledges their achievement. Technical training institutions can provide one- or two-year courses that allow the awarding of a certificate to successful graduates. Students who continue to study at a higher level can graduate with a two- or three-year degree. Universities may also provide vocational training and offer a one- or two-year diploma up to a four- or five-year degree.

Summary and conclusion

Our group believes that vocational education providers must develop their study pathways in close collaboration with local businesses and industries and all other stakeholders if they are to produce graduates who are self-sufficient and self-reliant. In other words, TVET programmes must be driven by local economic and social needs, not just by what policy makers, who are often removed from local economies, think is appropriate.

It is vital that all students seeking vocational education do not have to come to the urban areas to receive training about urban contexts. Rural locations, villages and remote islands need vocational training programmes that suit their needs and that are, ideally, provided on site. Vocational educators may need to be mobile to provide appropriate training for Pacific Islanders who are often disadvantaged by distance.

The prior learning and experience of clients should be recognised and courses with flexible entry and exit points could encourage more students to enroll in courses. Modularised courses would allow much needed flexibility.

If vocational training institutions constantly review and monitor their programmes to meet the needs of local businesses and industries, clients will have greater access to employment after they have finished their studies. A variety of employment opportunities for clients should be available post-TVET if vocational educators have maintained a close link with the needs of the local economy.

Ideally, vocational education should also provide those clients who have entrepreneurial aspirations with the vocational knowledge and management skills to start up their own businesses and so become self-employed.

New business initiatives and small-scale economic activities, supported by rural banks and micro-finance organisations that provide seed money, would give great impetus to vocational graduates to start their own businesses.

We strongly encourage our Pacific Island Ministries/Departments of Education to take our recommendations seriously. We are convinced that only by focusing on strengthening our TVET sectors will we produce graduates who are self-sufficient, self-reliant and competent and are able to become productive employees or self-employed men and women.

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Integration of TVET courses in the secondary curriculum

Johanna Simiona Gifford (Cook Islands) John Dinbi (PNG) Allison Nashon (RMI) John Niroa (Vanuatu)

Introduction

'Ideally, TVET courses should be woven seamlessly into the secondary school curriculum alongside academic courses. In practice, the curriculum in most countries lacks this integration.' This is a quotation from the task description this group was given. We used this as a focus for our thinking.

Our group was asked to talk about a vision for the place of TVET in our secondary schools and to work out some first steps to achieving a more integrated approach to including TVET in the curriculum. We were challenged to articulate what we hoped to achieve on this front in our island nations in the next five years.

Our vision

We are committed to the notion that TVET is the master key to unlock the doors of opportunity for all students at secondary level. There are four major aspects of our vision that apply to all Pacific Island countries. We advocate that:

- TVET must be an integral part of the secondary school curriculum
- TVET programmes must be flexible, mobile, accessible, relevant and valid
- all stakeholders must be active participants in all TVET programmes
- all programmes must be of high quality, sustainable and ongoing.

On the involvement of stakeholders, we are convinced that all stakeholders—students, parents, teachers, boards of trustees, Ministries/Departments of Education, industry providers, NGOs, central (national) governments and churches—must play an important role in the integration of TVET in the secondary school curriculum. Their contribution to policy-making, financial support, curriculum review and reform, research, guidelines and implementation, setting standards and benchmarks, administration and the reporting of assessment results is essential.

In our vision we are also committed to better informing secondary school students about TVET opportunities and outcomes and enabling them to participate fully in TVET programmes. Parents also will be well informed and able to encourage and direct their children toward a pathway that will benefit their career aspirations.

Quality assurance mechanisms will be put in place to ensure that the TVET programmes are of the highest quality and are able to be sustained. The continuity of TVET programmes at the secondary level must be locked in place to enable secondary students to achieve positive outcomes in the career pathways they choose.

An approach to achieving positive outcomes

As a first step, we agree that every central government will need to review critically its current education system to determine what is being done to integrate TVET into the secondary school curriculum and to discover what more can be done.

We suggest that, initially, a feasibility study should be conducted, followed by consultations with all appropriate stakeholders. Putting together the findings of the feasibility study, the consultations and any other additional research could form the basis for the development of an appropriate model for that country.

In many countries, national education guidelines and national assessment guidelines will need to be reviewed, realigned, reshaped, remolded and refined to accommodate the integration of TVET into the secondary school curriculum. This is a huge but not insurmountable challenge for committed educators. We also envisage that a national curriculum framework will, in tandem with a national qualifications framework, need to interweave TVET programmes and philosophies into its objectives and learning outcomes.

National and local strategic plans will need review. In planning, a clear step-by-step approach must be taken to ensure the successful integration of TVET programmes into the secondary school curriculum. A master plan should be formulated to address the *what*, the *how* and the *for whom* that TVET programmes will target. This master plan must be user-friendly, timely, comparable and flexible.

The question of pre-service and in-service teacher training must be addressed. Teachers must be provided with high quality, relevant training to ensure that they can deliver exemplary TVET courses to students in secondary schools.

Resources in secondary schools, relevant to vocational training, are essential for the successful delivery of TVET courses. Upgrading of existing resources either through better equipping secondary schools or by developing closer connections with industry, will need to be considered.

The accreditation of TVET providers is mandatory. This will mean that all secondary schools must be accredited to deliver, assess, evaluate and consistently report all learning outcomes to the stakeholders. Consistency must be maintained at all levels in the secondary school system by way of quality assurance audits and regular reviews. This accreditation procedure will ensure that qualifications are

transportable and that credits gained can be used as a stepping-stone to higher levels of study, both at secondary schools and higher levels of study.

TVET integrated into the secondary school curriculum

Why should TVET be integrated into the secondary school curriculum? In brief we see that it will encourage teachers to deliver a curriculum that is not only academic and will engage the mind or the head, but one that is also practical and so connects with the hand and with the spirit of the learner, that is, the heart.

We believe that the measurement of understanding of the curriculum, that is the learning outcomes, is best achieved by using a variety of assessment modes. These should include formal and informal means as well as summative, formative and diagnostic assessment. Standards can be set internally within a secondary school and externally at a national level if required. External examinations set outside a secondary school and taken by all secondary students in a country can be organised. A competency and achievement-based assessment approach can also be adopted.

We suggest that the secondary school curriculum should be enterprise-oriented and should have an appropriate level of vocational orientation.

Challenges to integration of TVET into the secondary school curriculum

We suggest that a significant drawback to making sure that TVET is integrated into the secondary school curriculum is a lack of political will. For TVET to be an integral part of the secondary education system, a country's political leaders must be convinced of its key role and must be willing to support it fully. Some serious lobbying of doubting politicians may need to be backed up with significant success stories from other parts of the Pacific.

Providing the right human resources at the right place at the right time is another significant challenge. Unfortunately, in most Pacific Islands, human resources for the implementation of TVET courses at secondary level are in short supply. A review of human resources needs to be undertaken in each country. Where there are

shortages or imbalances, personnel may need to shift. More teachers may need to be trained (pre-service) or re-trained (in-service). People with appropriate expertise may need to be brought in from other countries on a temporary basis to overcome this shortage. We should never underestimate the availability of TVET experts from the Pacific region to address this challenge. We ought to consider a local Pacific Islander before buying in aid from further afield. Long-term development plans should address this important question of the mobility of human resources.

Finding sufficient funding for the development and resourcing of TVET education in the secondary sector is a continuing problem. TVET is seldom regarded as the master key to successful economic development; it is more frequently relegated to a lower level and so receives minimal funding from governments. We advocate that governments be convinced of the master key status of TVET so that they will allocate more funding to vocational education at the secondary level. However, we recognise that, because overall government funding will rarely be sufficient to answer all educational needs in Pacific Island nations, it must be sought elsewhere to supplement what is available through governments.

Aid money can be used well to benefit TVET. A more critical source, spelt out in other chapters of this book, is funding both in cash and kind that can be found through direct connections with industry. Industry, as a major stakeholder, can provide material resources in the workplace and in the school. People in industry can also provide a valuable teaching resource. So it is vital to develop an awareness of TVET in industry and to encourage it to participate in the ways described. This can lead to a valuable partnership where industry not only understands TVET, but also feels a sense of ownership of it.

Potential students sometimes find TVET inaccessible. Costs are prohibitive for some and so accessibility to vocational training becomes a problem. We strongly advocate that TVET be accessible to all students at minimal cost. Expense should not prevent or limit a student's ability to access a TVET course of his or her choosing. Bonding systems of deferred payment could be considered an option.

We also consider that there is a lack of initiative by some governments to encourage students to pursue TVET courses in areas where there are sufficient resources or where a country needs trained personnel with TVET qualifications.

Outcomes of TVET integration

If TVET programmes are successfully integrated into the secondary school curricula of our islands' education systems, the long-term benefits to an island economy will be manifold. Additionally, vocational education at the secondary level will produce:

- well-balanced students who are mature physically, mentally and spiritually
- well-rounded students who are able to function well in both local and global contexts
- well-informed students who will become knowledgeable and wise citizens able to make the right decisions and choices
- students who will become productive members of society by having the skills and the training to provide for themselves and their family.
- students who will be able to contribute to their local community and to their island economy.

Conclusion

We place this key on your table. We hope that you will listen and hear what we have suggested and that you will be instrumental in adapting these ideas to your own Pacific Island country so that TVET becomes a vibrant force in your secondary schools. TVET is about learning for life; we compare it to the process described in this significant island verse:

Pound, pound, pound the bark.
Expand, lengthen, widen and strengthen,
That all may be girded with honour,
With love, with love, with love!

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TVET in primary schools

Maseiga Osema (Tuvalu) Destin Penland (Palau, PREL) Dominic Fanasog (Yap)
Sherman Daniel (Palau)

Introduction

We support the implementation of TVET programmes in primary schools because we believe that all children need to be grounded in their local communities. By using a holistic and realistic approach to what TVET might mean in a local Pacific Island primary/elementary school, we strongly affirm that children at the primary level or beginning years of schooling can benefit from formative and practical programmes that will prepare them for life beyond their years of formal schooling. Primary schools need not offer specific vocational skills training programmes that directly prepare them for the world of work beyond schooling. This is the task of secondary schools and post-school vocational training institutions. However, important foundational work can be carried out at the primary level.

Objectives for TVET training at the primary school level

We suggest that primary schools can engage in TVET programmes that show students the following, in a way that is appropriate to their age level:

- that beyond formal schooling they have the capacity and the right to find a sustainable livelihood in the adult world of work
- that there are work ethics and values to be learned about working in a local community
- that traditional and cultural skills are very important
- that they can keep on learning new skills for the rest of their lives
- that there is a wide range of marketable and employment skills that are available in their local community and beyond.

A number of Pacific Island primary schools already have active TVET programmes, while others teach in a way that integrates some or all of these objectives into their curriculum, without naming them specifically as TVET programmes.

Primary school TVET programmes: successes and challenges

Our group raised the question as to whether the objectives listed in the introduction should be integrated across all subjects in the primary school curriculum or whether they should form the foundation for a separate subject. A *life skills* topic that includes, for instance, ethics, values and co-operative learning could be separate or integrated into all curriculum areas. It also could be embedded in a topic called *livelihood skills,* where children learn practical skills about farming, fishing or craft making, for example. We see both these options as exciting and as having great potential, especially as we have observed an outstandingly successful case study at Airai Elementary School in Palau during this workshop, where practical gardening skills were taught along with associated life skills integrated into that programme, as well as into other areas of the curriculum.

There are several challenges to overcome if primary schools that do not currently include TVET programmes and activities in their curriculum are to do so.

Challenges

1. There is often a real lack of community awareness and support about the benefits of TVET primary programmes. Parents often reject TVET programmes, seeing them as putting their children on a pathway to becoming blue-collar workers with lower compensation packages instead of white-collar workers with better pay.
2. Pacific Island Ministries/Departments of Education do not see primary school TVET education programmes as a priority and so do not fund them, leaving schools to find their own funding if they wish to go in this direction.
3. Primary school TVET programmes are not clearly articulated in the primary school curriculum.
4. Qualified, skilled human resources to teach at the primary level are not always available.

TVET programmes in the primary school curriculum

TVET is a critical component of primary school curricula and curriculum designers should include it in their strategic planning, curriculum development, instructional resources and delivery packages. A number of Pacific Island primary schools have successfully integrated TVET programmes into their overall curriculum. These schools can be used as models for other primary schools that may be unsure of just how to make it work.

Who should teach TVET at the primary school?

We recommend that TVET is everybody's job at the primary school and that elements of TVET should permeate all areas of the curriculum. Classroom teachers, specialist teachers and community resource people can all contribute to TVET programmes in primary schools. Existing primary school staff, with the support of appropriate community members, including parents and grandparents, can successfully implement the practical and theoretical elements of TVET. Specially trained primary school TVET teachers are not a necessity if this integrated approach is adopted.

A way forward

We recommend that, in the early and middle years of primary schooling, TVET programmes should be generic and general. Right across the curriculum, students can be given opportunities to gain basic TVET knowledge and skills. Exposure to as many different vocations as possible should be an objective. Parents and community members can come into the school to discuss their work and audio-visual materials such as books, pictures, local newspapers and videos can supplement the knowledge they provide. Excursions to workplaces in the local community can give students a real life experience of many professions.

By years 6 and 7, all TVET primary school curricula should include career pathway exploration. Such preparation will equip primary school-leavers to make more informed decisions about TVET programmes they may wish to take at secondary school. It will also provide students with enough knowledge to see a reason and a purpose for choosing a certain vocational education direction. In some Pacific countries, such as Yap, secondary schooling is not compulsory and many parents cannot afford to send their sons and daughters to secondary school. It is important, in this instance, that TVET information and skills are taught in the latter years of primary school so that these young school-leavers have sufficient grounding to make informed decisions about the work they would like to do.

The community and TVET at primary level

No Pacific Island primary school should underestimate the value of involving community members in the delivery of TVET programmes at the primary school level. Skilled community members should be sought out and invited into primary school classrooms to act as resource people who provide information and demonstrate workplace skills. After all, they are the local experts in their fields of work.

A primary school TVET curriculum must always begin with what students already know about the world of work. This means the curriculum must draw on the children's knowledge and experience of businesses and other workplaces that are in the local community. Students will be familiar with many of these work places

as they have been exposed to them from birth by simply living in the community. Starting from the point of what is already known by students, classroom teachers can systematically expand this knowledge.

It is essential that TVET at the primary level draws on the traditional knowledge and skills practised by the members of that community. In fact, it is this unique cultural aspect of Pacific Island living that can form the foundation for the curriculum in the early years of primary schooling. Local community experts can visit the school on a regular basis to demonstrate skills such as weaving and other indigenous arts and crafts, subsistence skills, traditional agricultural practices and fishing methods. Demonstrations by community members can lead to primary school children trying their hand at these activities in the school setting. Excursions into the community to practise these skills in real life settings would add impetus to these activities. Teachers will also know that many Pacific Island students may have at least some experience of these skills from their out-of-school experiences with family, friends and other community members. Primary schools, by including these skills and the teaching of traditional knowledge, will consolidate this learning.

Involving community experts to teach primary school children traditional skills and knowledge that are grounded in the local culture and wisdom will help to ensure the continuity of cultures and the values that underpin them. Local elders will take considerable pride in and ownership of these aspects of a curriculum.

Because we know that well-taught TVET programmes can promote self-sufficiency and self-reliance in the local environment, we have no hesitation in recommending community involvement in these programmes at primary school. In fact, we believe that community participation in primary schools is an important base for the successful delivery of successful TVET programmes.

A vision for TVET in Pacific Island primary schools

As a group we unanimously recommend that primary school educators instil and develop proper ethics, values, attitudes and life-long learning skills so that our children are capable of addressing the future challenges of continuing education,

good citizenship and sustainable living. By including elements of TVET across the curriculum at the primary level we will provide better opportunities for these students as they progress to secondary school and TVET. We are mindful that many secondary school students become drop-outs or are pushed out by a system that does not engage with their needs. By jumping in with TVET training at the primary level, we are giving students a chance to make progress and succeed in the world of work.

There are challenges that we must address if we are to fulfil this vision. We must work hard to get the local community to support and become involved in our primary school TVET programmes. We must convince our curriculum writers to develop curricula that allow for TVET to be integrated into every subject across the primary school curriculum. Accountability measures and assessment procedures about TVET components need to be consciously and constructively thought about and planned for in curriculum design.

Currently the connections between the academic content of the TVET components in the curriculum and practical, everyday applications are unclear. These connections need to be made and explicitly written into the curriculum. It is the practical, real-life elements that bring theoretical TVET training alive. If ignored, a theoretical, academic primary school TVET curriculum is a risky option.

More work needs to be done with primary school teachers to help them identify, name and include elements of TVET across every area of the curriculum. Teachers also need support in catching the vision of how to make TVET life skills more relevant to the daily lives of their students.

As each Pacific Island country begins to develop its next national education strategic plan, it must be convinced that TVET training is a priority and that TVET at the primary level is the best starting point.

Conclusion

Our conclusion is direct and simple: It takes a whole village to educate a child. Implicit in this well known statement is the certain knowledge that all children must be connected to their own unique cultural traditions through the community to which they belong if they are to achieve full potential. So we say again, educating the child needs the support of the whole community. Including TVET at the level of primary schooling, in the way our chapter describes, provides a unique opportunity to do just this.

13

TVET programmes for students with special needs

John Guerrero (Commonwealth of the Northern Mariana Islands) Faamoemoe Sotiati (Samoa)Bedbii Chokai (Palau) John A Arukelana (Vanuatu)

Introduction

This important topic, TVET programmes for students with special needs, is difficult to address as there is very little literature available on the topic in the Pacific region. We therefore drew on the knowledge we have of the situation in our own countries and the Pacific generally. We saw our task as one of trying to create access, equity and quality TVET programmes, especially at the level of secondary school, for every student with special needs in the island nations of the Pacific.

We agreed that students with special needs include:

- those with physical or sensory disabilities
- those who are disadvantaged by poverty and very low socio-economic status
- those with learning difficulties
- those from remote and isolated areas
- those with personal and emotional difficulties.

We believe that these children need TVET programmes that take sensitive account of their special needs. We are well aware of UNESCO's objective of providing Education For All by 2015. We are concerned, however, that current TVET programmes mostly address the needs of able students who are considered normal and, consequently, the disabled or those students with special needs are often ignored. They are all too frequently the forgotten members of our societies. We strongly support UNESCO's objective to provide opportunities for appropriate skills development for disabled students and those with special needs so that they can become productive members of society. Our group took note of UNESCO's evocative statement that such programmes can provide hope and light for students with special needs.

In our presentation we looked at this topic using the six pointers listed below.

Issues
What needs to happen
How the community can help
Possible pathways
Challenges
Our vision.

Pacific issues about TVET for students with special needs

Providing appropriate programmes for Pacific students with special needs is greatly hindered by the lack of funding by governments and other potential funding organisations in the Pacific. This, coupled with inadequate educational policies for special needs students in the TVET sector, has ensured that special needs students are inadequately catered for, especially at the secondary level. Provision for students with special needs has not been a priority in TVET programmes.

In the vast majority of Pacific Island secondary schools, little if any on-site support is available. For example, many secondary schools have steps and stairs that make it impossible for a wheelchair-bound student to attend classes. Counsellors who could assist students with special needs in secondary schools are not there; assessment

and evaluation procedures are geared to the able students, making it impossible for students with sight and hearing impairments to participate in TVET programmes; and parents who could be invaluable in the support of a disabled TVET student are rarely encouraged to enter a classroom in a support capacity.

There seems to be a perception that students with special needs are a distinctly separate group who do not and cannot participate with normal students. It is a fact that few actively participate in TVET programmes, the sporting teams in a school or in other social activities. But need this be the case? Some other nations have shown foresight in the inclusion of students with special needs in all areas of schooling, including the TVET sector, and have been surprised at the significant contribution they make. TVET, with its hands-on approach, is sometimes a surprising and rewarding educational opportunity for a student with special needs. The seeming lack of awareness by Pacific societies and their educators in the TVET sector to provide programmes for students with special needs, especially in secondary schools, is in need of change.

The fact that we tend to educate only those who are able must also change. Students with special needs can receive a vocational education and then become employed and financially independent. Inclusive education policies that take note of these students are a starting point. Raising the awareness of educators, parents and the wider community about the advantages of the inclusion of these students is a vital next step. The challenge then is to provide a vocational curriculum, support mechanisms, infrastructure and processes of teaching and learning in secondary schools that are flexible enough to include both able students and those with special needs.

What needs to happen

Every Pacific Island nation through its Ministry/Department of Education must establish an in-depth policy that states without question that its TVET sector must make provision for students with special needs, both in secondary schools and post-school. This means that the curriculum will be so structured that students with special needs will be catered for and that they, like able students, will be

appropriately taught and assessed. They will be certificated when they acquire the skills prescribed in a TVET topic and they will proceed if they so wish to TVET colleges without impediment.

Financial provisions will be needed. Governments and non-governmental organisations should put aside a proportion of funding to implement TVET programmes for students with special needs. Additional human resources will be required. Specially trained personnel will be needed who not only can teach the vocational skills required but who also have the knowledge and wisdom to teach and to manage students with special needs. Pacific Island nations have many remote and isolated islands where students are disadvantaged by distance. Special TVET provisions must be considered for these students.

By vocationalising the secondary school curriculum in such a way that TVET programmes can easily be included in a student's individual educational plan would be of great advantage to all students and would enable students with special needs to access vocational skills more readily.

If we, as senior TVET educators, can develop a clear, workable TVET plan for secondary school students with special needs in each of our nations, we can use it to lobby our educational supporters and stakeholders. We can market this plan to our elected leaders and to other senior educators, parents and the wider community. Our aim would be to convince them that it is not only a human right to provide an appropriate vocational education for all students with special needs, but that the educational outcomes of their inclusion will benefit the nation.

How the community can help

The community can play an important part in supporting students with special needs undertaking TVET programmes in secondary schools. Partnerships with workplaces in a community can provide work opportunities for students, both for work experience during their training, part-time work during holidays and full or part-time work after graduation. Such connections can ensure an easier transition into the workforce, especially if there is an ongoing relationship of

mutual understanding, support and trust between the TVET trainers and the workplace managers and staff.

We see the possibility of an important partnership between senior citizen centres in the community and TVET students. Respected senior citizens can be involved in guiding and mentoring students, particularly those with special needs. In this way important knowledge, local wisdom and culturally important values can be shared.

Students with special needs can also benefit from good relationships with able students. This could be developed as a buddy system. In addition, programmes to enhance self-esteem could be offered, giving students an opportunity to become involved on a voluntary basis.

Pathways for students with special needs

Although there is no good reason for excluding special needs students from any TVET courses, we believe the following vocational courses would be particularly useful. These courses have attracted special needs students in the past and the students have enjoyed them. Some students have succeeded in gaining employment at the end of their training programme while others have made a smooth transition into vocational training courses offered by post-secondary colleges:

landscaping
horticulture
screen / fabric printing
wordworking / carving
arts / crafts
sewing / embroidery
visual / performing arts
boat building
computer operators / programmes
interpreter (sign language)
entrepreneurship
clerks

mail runner
bell boy
house keeper
tour guide.

Some of the courses suggested are important for Pacific Island nations because the skills taught are rooted in the culture. In Yap, for instance, a skilled designer and boat-builder who happens to be blind is working with local youths to construct traditional canoes. For the people of Yap, this ensures that an important traditional boat-building technique is not lost with the passing of a generation of skilled boat-builders.

Each Pacific Island nation should take a close look at their economy to discover niches that may be particularly suited to students with special needs. Training opportunities should be provided and special needs students encouraged or even sponsored to take up these study pathways.

Challenges anticipated

We are well aware that there will be significant challenges if all Pacific Island nations commit themselves to the provision of TVET programmes in secondary schools for all students with special needs in their society. An issue that will always be present is the shortage of funding and resources. We suggest that stakeholders across the wider community, as well as governments, be encouraged to support the training of special needs students, not only financially, but also in kind. For example, a tourist resort may pay the school fees of a potential housekeeper in return for occasional assistance in servicing guest rooms, or a local business may provide a free bike for a mail runner. Wood and tools could be provided to a local secondary school by a wooden artifacts industry that could, in turn, recruit carvers from that vocational course at the local secondary school.

Perhaps the most difficult challenge will be to convince educational policy-makers, boards and Ministries/Departments of Education that TVET programmes in secondary schools are desirable because they do provide real and lasting opportunities

for students with special needs. The challenge will be to communicate the advantages to all stakeholders in a clear, convincing manner. Getting stakeholders physically involved is a proven way forward.

We have observed that there is very little interest shown by parents in vocational courses for special needs students in secondary schools. Is this because schools have kept parents at arm's length? Whatever the reason, a concerted effort to invite parents into the school, to welcome them once they are there, and to utilise their skills, could be of great value. Once involved, parents have been observed in other countries to become very committed to the education of special needs students, providing much needed support and human resources.

Attracting appropriate volunteers is a challenge worth pursuing. There are people who are ready and willing to give of their time and talents if the opportunity is offered. The valuable contribution of volunteers in terms of time, skills, support and financial saving is so great that it cannot be accurately measured.

Undoubtedly, TVET staff in secondary schools will need additional professional development to train students with special needs. Specialised, skilled teachers are required if vocational courses are to be offered. Finding appropriate personnel to provide professional development, finding time for teachers to undergo training, and finding finances to pay for it, will challenge educational planners. It is worth considering a Pacific-wide approach to this professional development question. Rather than each country grappling with this issue, could there be a mobile team of Pacific Island educators to assist with professional development programmes across the region? There is absolutely no doubt that skilled Pacific educators who are more than capable of providing such programmes in their own region are available. It is vital that these people are used, rather than bringing in expensive consultants from western nations.

Within schools, there is a big challenge to integrate TVET study programmes into the secondary school curriculum. This is particularly challenging when considering the educational support required for students with special needs.

This is closely linked with the 4 Rs raised in workshop discussions: Readiness, Relevance, Resources and Research. Each island nation has to consider these issues and the staff of each secondary school in that country has to work out how this can be done. Perhaps a staff workshop could assist.

Our vision statement

We have shared our insights about this topic and have, to the best of our ability, come up with the following vision statement.

We would like to see in every Pacific nation:
a national educational system
that provides sustainable access
equity and quality TVET pathways
for all students with special needs
within the framework of formal education.

Conclusion

In order to achieve the vision we have described above, there are many steps to be taken. First we know that the starting point is in the hands of the educational policy-makers who must be convinced that a TVET policy that provides quality secondary school TVET programmes for students with special needs is a priority. Once a policy is established, financial backing must be forthcoming from governments and other funding bodies. We suggest that the connection between secondary school TVET providers and the private sector and non-governmental organisations needs to be significantly strengthened. We have also suggested that educational awareness programmes about TVET education for students with special needs be promoted with parents, families and the wider community. Ongoing teacher training programmes and professional development opportunities providing support and training for teachers working with special needs students is a must. We hope that all Pacific Island nations will take up the challenge and make a concerted effort to provide access, equity and quality TVET pathways for all students with special needs in their island nations.

14

Pre- and in-service preparation for TVET teachers for secondary schools

Winsley Degoba (PNG) David Orrukem (Palau) Viliame Rabici (Fiji) Gary Ueno (RMI)

Introduction

We saw our first task as one of reviewing what currently happens with TVET teacher training in the Pacific and what issues and challenges these current practices present. We move on to discuss ways of responding to these issues and challenges. We have been bold enough to suggest some immediate actions that Pacific nations could take to improve the preparation of TVET teachers for secondary schools. We conclude by sharing our combined vision for the Pacific.

Overview of TVET pre- and in-service training in the Pacific

First we acknowledged these initiatives. In Fiji, Samoa and Papua New Guinea (PNG) pre-service TVET teacher training programmes are offered from certificate to diploma level. We noted that in-service training programmes are offered at

diploma, degree and postgraduate level at the Fiji Institute of Technology, at the National University of Samoa, and at the University of the South Pacific (USP). The BEd (Technology) programme offered at USP was particularly noted.

In PNG, an annual in-service course is offered for TVET teachers. All TVET teachers are brought to a central location for a week of intensive professional development. This is known as National In-service Training Week. In Micronesia, the Association of Career and Technical Education assists with TVET teacher training. Some countries offer overseas training in their chosen field to a limited number of TVET teachers.

Regionally, PATVET[1], in conjunction with the Commonwealth of Learning (COL), has initiated training on the delivery of TVET through Off Campus and Distance Learning (ODL). COL also provided technical support to the Fiji Institute of Technology, the Samoa Polytechnic and TTI on multimedia production.

PATVET and the institutions named above have been working hard to raise the standards of TVET teacher training, both at in-service and pre-service levels, across the Pacific.

Issues and challenges

Three significant Pacific-wide issues offer a big challenge to all TVET educators.

1. TVET teachers are held in low regard.
   This is reflected in the status given to these teachers and the salaries they are awarded that are considerably lower than those awarded to mainstream teachers.
2. There is a lack of funding support for TVET teacher training.
   This is clearly related to the low regard noted above.
3. The lack of industrial experience of most TVET teachers in secondary schools is of serious concern.

1. Pacific Association of Technical and Vocational Education and Training

Across the Pacific, there is a lack of awareness of TVET teacher training initiatives currently available in the region, both at the pre-service and in-service levels. There is a particular divide between the north and south Pacific; it is true that, overall, the south does not know what the north offers and vice versa. The absence of regional coordination is reflected in the fact that there is no regional qualification framework to regularise the qualifications of TVET teachers across the Pacific.

There is also a lack of specialist training for TVET teachers at a regional level, although USP does offer a degree in technology for Pacific Islanders studying at that institution. Pacific Island countries as yet have not actively shared their TVET resources regionally and have tended to operate independently.

Looking more closely at individual countries, we found that in many islands, particularly in Micronesia, skilled trainers who can train teachers in TVET are simply not available. Few trainers have the required qualifications to train teachers to the professional level required. This has a ripple effect in that there is an absence of specialist TVET teacher programmes in many training colleges. In addition, there is a high turn-over of the few well-qualified TVET teachers available as they are poached by other sectors or lured by higher salaries elsewhere.

Within individual TVET teacher training institutions we found that there are significant differences in the content of similar courses and in the assessment tasks and standards of assessment.

The spatial distribution of islands in most Pacific countries is the biggest challenge. It limits a teacher's access to training and prevents the effective monitoring of training by training providers.

Most in-service training programmes are designed and implemented in central locations by trainers also located centrally. These trainers have dual roles—as administrators and as trainers—so they can hold in-service TVET programmes only if they can find time after carrying out their administrative responsibilities. The lack of equipment, tools, infrastructure, technology and other resources to

conduct training is also a significant drawback both for the in-service and pre-service training of TVET teachers.

Responding to issues and challenges

Our first challenge is to consider appropriate ways to raise the status of TVET teachers across the Pacific. Why should TVET teachers be seen by most as occupying the bottom rung of the teaching ladder?

Initially, we will need to upgrade the qualifications offered to those who want to become TVET teachers. Lower level certificates and diplomas need to be supplemented with bachelor and master degrees and doctorates offered at university level. It is no use just talking about upgrading these qualifications; we must use every means possible to ensure that teacher training courses are available in the Pacific for those who train as TVET teachers.

A second priority is to review the current salaries of TVET teachers. Salaries must be seen in the context of market forces. A competitive salary must be offered to competent teachers and those who have higher qualifications.

The view that TVET is of lower status than the more academic career pathways must be addressed. We need to establish proactive advocacy about TVET, where its true value can be firmly established with parents, youth leaders, young people themselves, church and community leaders and government officials. We believe this process should start with the parents, although it is sometimes the TVET teachers themselves who need the chip removed from their shoulder.

Career pathways need to be articulated for TVET teachers; pathways that lead upwards and onwards. Promotion, including increased remuneration, must be available to TVET teachers so that the professional development courses they undertake have more positive outcomes. Access to and availability of professional development and progress on a career pathway must be a real, on-the-ground possibility for all TVET teachers.

Who should provide training for TVET teachers?

We believe that the major players are teacher training colleges, universities and technical institutes. These institutions should be equipped and resourced to provide quality pre- and in-service training for TVET teachers.

The role of industry in the delivery of training for TVET teachers is crucial. The above-mentioned training institutions may provide the theoretical training for TVET, but it is industry that will and must provide the practical training. Theory is not meaningful without real life practice. TVET training needs both. It is workplace learning and assessment that can make theoretical learning come alive.

The support of the local community is vital if TVET is to be successful. Whether it is the local suburb, province, village, settlement or hamlet, the value of TVET must be understood and respected by that community. This will enhance and enrich the status of TVET and encourage young people to engage in TVET programmes at primary and secondary school and beyond.

How long should pre-service training take?

We suggest two options.

Option 1

For graduates from secondary school, we suggest two years in trade training, in both a training institution and in the industry itself. During this training period, trainee teachers will acquire the skills demanded by industries and communities in the trade area they have chosen. Having completed the theory and practice of trade training, students should undertake a year of teacher training.

Option 2

People qualified in a particular trade and with three to five years' experience in the industry could undertake a year of teacher training to become a qualified TVET teacher.

How to improve in-service training programmes

TVET in-service training should not be held in an *ad hoc* way. It should be systematised and recognised as a step forward in the TVET teacher's career pathway. Certificates of attainment should be issued to teachers who successfully complete in-service training programmes. These certificates should be cumulative and show a clear articulation to increasingly higher levels of training.

We strongly advocate that regional bodies such as PRIDE and PREL, with the assistance of UNESCO-UNEVOC, set up teacher exchange schemes in Pacific Island countries to improve standards of teaching in TVET. The Pacific has its TVET teacher experts. It is the recognition of these people and the creation of regional systems to allow them to share their expertise across the Pacific that will improve the standard of teaching in the TVET sector.

Successful models of TVET teacher training are also evident in the Pacific. These models need to be identified in the countries in which they operate. Their transferability to other Pacific Islands should be considered. Again PRIDE, PREL, UNESCO-UNEVOC and other Pacific Island TVET leaders could evaluate these models, and appoint appropriate local TVET experts to ensure they are culturally appropriate to island nations other than the island of their origin. The careful implementation of these models of TVET teacher training across the Pacific could greatly improve TVET teacher qualifications regionally.

Immediate actions

Insufficient funding is a common complaint from TVET educators across the Pacific. Unfortunately, the majority of Pacific Island governments are not in a position to inject the funding required to upgrade the system. We suggest, as a first step, that a user-pays system may need to be put in place. Second, we recommend that donor agencies, both in-country and internationally, be further encouraged to support teacher training in the TVET sector. Perhaps a more sure way is to develop stronger partnerships with local industries. It is the people who are trained and actually working in industry who can offer their expertise to trainers. Industries may also be willing to assist with off-shore scholarships.

During this workshop we have become far more aware of the human resource expertise in TVET across the region. We suggest that an active network of Pacific TVET training providers be established immediately. This network would enable all countries to share resources and training expertise more easily.

We are concerned that many TVET teachers in the Pacific do not have a trade or subject qualification. We recommend that all TVET teachers be qualified in their subject area before undertaking a teacher qualification.

Our vision for pre-service and in-service TVET teacher education

To conclude our chapter we ask that the following steps be taken as a matter of urgency.

1. We recommend that partnerships on TVET teacher education be set up among all Pacific Island participants at this workshop.
2. We recommend that a regional data base be set up for TVET teacher education in the region. On this data base a record of TVET practitioners should be established. Entries should be subject to a three-yearly review that involves all practitioners in a triennial competency-based assessment of their skills. Pacific-wide benchmarks should be established to ensure the transferability of qualified TVET personnel across the region.
3. We recommend that all TVET teachers have industrial experience. Governments need to put in place an industrial attachment policy for all TVET teachers.
4. We recommend that a regional exchange scheme for TVET teachers be put in place. This could be facilitated by PATVET or any other interested body.

We hope that all workshop participants can take these recommendations back to their island nations and become the catalysts for TVET change, particularly in the field of pre-service and in-service TVET teacher training.

15

Bridging between school and TVET and school and work

Josefa Natau (Fiji) Theodoro Borja (Palau) Zita Pangelinan (Guam, PREL) Samuel Misionare Lafolua (Tokelau)

Introduction

PRIDE Benchmarks

PRIDE's benchmarks,[1] agreed upon by the fifteen participating Pacific Island nations, state the following in relation to TVET.

1. Education sector strategic plans should address the challenges of effective articulation between each level of education: from pre-school/early childhood to elementary/primary, from elementary/primary to secondary and from secondary to TVET.

1. http://www.usp.ac.fiji/pride

2. The plan should also address the challenges of articulation between education and the world of work, not only in the context of paid employment but also of self-sufficiency, self-reliance and self-employment.

Our chapter keeps these two important benchmarks in focus throughout the discussions that we report here.

TVET issues and challenges in Pacific Island nations

Taking a big picture view of our topic, we are acutely aware of challenges throughout our TVET systems and the lack of a smooth transition between TVET and school and work. We see the need to review aspects of the connection with stakeholders, of doing a proper TVET needs assessment, of implementing appropriate strategies to bridge the gaps in the structures between TVET, school and work, and of systematically evaluating and refining current TVET systems and programmes.

Let us now look more closely at specific issues and challenges with a view to finding some constructive solutions. Building the bridges that are highlighted in our topic is intrinsically tied up with many other issues in the TVET sector. Our discussion is wide-ranging to encompass these issues and challenges.

Perhaps the most critical issue is to shift the mind-set of all stakeholders in the TVET sector. Our whole workshop has focused on this issue. How do we create a paradigm shift among TVET stakeholders to get them to take a holistic view of how TVET can be better connected with both primary and secondary school and how there can be better connections between school and work? Currently there are different, often conflicting, agendas among stakeholders, the community and TVET providers. This inhibits co-operation. Furthermore, the situation is not always assisted by governments and politicians, whose support is frequently not aligned with the needs of the TVET sector.

A second challenge is the complexity of balancing the 4Rs—Readiness, Relevance, Resources and Research—in the TVET sector. The cost of running the TVET sector to ensure the 4Rs are met is estimated to be 3.7 times higher than that of

running the academic sector. Finding enough funding for the implementation of effective TVET programmes is a constant source of frustration in Pacific countries. Implicit in the delivery of effective TVET programmes is the challenge to balance the social, economic and cultural relationships among stakeholders. Another delivery challenge is to bridge the gap between traditional and modern-day education.

A third concern is the training of TVET teachers. Teachers need to be more learner-oriented; they need to be facilitators who can become the cornerstone of TVET educational development, not just concentrating on teaching what they know over and over again. Quality assurance mechanisms must ensure that teaching/learning is the best in every TVET programmes offered.

Next is the question of managing money given by well-meaning aid donors. First and foremost, aid donors need to communicate with each other to ensure harmonisation. In addition, we, the recipients, must insist on the management parameters of aid so that it is in line with our educational objectives and is aligned to our terms.

Equity is a great concern. Currently, women are disadvantaged, as are students with special needs. The scatter of our Pacific islands also causes difficulties of access to TVET for students on remote islands.

The linkages and alignment between industries, TVET institutions and the community are tenuous and uneasy in many Pacific Island countries. This prevents a successful bridging among the stakeholders.

Addressing challenges

In suggesting some practical solutions to the numerous problems that confront the TVET sector in the Pacific region we took as a starting point this inspiring quotation from the renowned Philippine politician and educator Dr Lourdes R. Quisumbing.

This is what he said:

> TVET should operate as an integral part of life-long education adapted to the needs of each particular community and at the same time helping that community to keep abreast with technological developments at the global level.

We also have been inspired by our keynote speaker, Dr Rupert Maclean, whose *water through sand* analogy provides us with a constructive way forward for strengthening our TVET sector and, in particular, the bridges between TVET and school, and school and work.

Challenge 1

How can we create a paradigm shift in the TVET sector?

This paradigm shift must aim at reconciling the different agendas being pursued by different stakeholders. It also must influence governments in such a way that there is a political will to make things happen in the TVET sector. Here are some suggestions.

- A high level of lobbying and negotiation must occur between the TVET sector and governments.
- A special TVET forum is needed for all stakeholders in the community where open dialogue and discussion can explore how the TVET sector can articulate better with stakeholders.
- Countries must review and develop policies for alignment and articulation between secondary school and TVET, and school and work.
- A national TVET task force (think tank) could be created to address these articulation issues and to suggest constructive ways forward.
- A national strategic plan that sets in focus the direction for all stakeholders could clarify the roles of learners, educational institutions, industries and the community. This plan could also develop more awareness in the community about TVET as a successful, long-term ongoing exercise. The focus of aid money spending could also be determined by the stakeholders and recorded in the plan.

- A comprehensive and effective marketing campaign that celebrated and show-cased successful students, best practices, global perspectives and the involvement of the local community could be disseminated through the local media. To prepare such a marketing campaign, prior consultative meetings in the community, involving interested stakeholders, should determine and drive the directions, strategies and policies of the campaign. An important part of marketing is public education and training so that all in a community are aware of the viability of TVET and how it can enrich a local community.

Challenge 2

How can the 4Rs – Readiness, Relevance, Resources, Research – be addressed?

Readiness: We suggest that, initially, the mind-set about TVET needs to be changed. In fact, by quietly and insistently pursuing awareness programmes through the media and face-to-face contact, students, parents and the wider community will experience a paradigm shift and will be ready to accept the value of TVET. Another avenue that could assist is the provision of incentives for students, such as free tuition or tool kits relating to their trade for graduating students.

Relevance: To ensure relevance, it is vital that the curriculum be learner-driven, and that it be created collaboratively by the government, the community and industry. A curriculum cannot be written and set in stone. There will be a continuous process of adopting and adapting because the curriculum must be locally and globally relevant for learners to be competent in today's fast-changing world of work. Therefore, the curriculum needs to be open and flexible enough to accommodate these changes. It also must be needs-driven. An economic needs assessment within each Pacific Island nation must be ongoing so that the TVET curriculum can ensure its programmes are directly answering the needs of the nation.

There will need to be a careful alignment of TVET strategies with the human resource component of the national strategic plan. Overall, countries will need to be work-smart by networking, by sharing resources, and by being cost-effective and efficient to ensure the relevance of their TVET sector. In a nutshell, it is maximising what we have in a sensible way.

Resources: We must be firm in recognising that a lack of resources, particularly money, can be an excuse for delays and no action. If we are wise we will develop an inventory of traditional resources that can be drawn upon by the TVET sector. We must also network and share resources such as libraries. A TVET network of friends can also enrich the sector.

Research: TVET in the Pacific is not as active with its research as it could be. TVET teachers should be given an opportunity to research so that they can determine and syncretise the best mix of the global and the local for each country.

Challenge 3

Balancing social, economic and cultural relationships

There must be a stronger emphasis on the recognition of values for sustainable development. We need to rethink national policies, strategic plans, curriculum development, community development programmes and a number of other TVET related areas in the light of values education and sustainable development.

A holistic view of TVET should be developed. We suggest that TVET education needs to be knowledge-based, human-centred and value-centred. It should be socially constructive, based on equity and justice, and have a focus on citizenship education.

An approach that takes into account a holistic educational view and values for sustainable development will strengthen the TVET sector and the connections between school and work.

Challenge 4

Bridging the gap between traditional and modern-day education

To address this challenge a first step is to strengthen the linkages across schools, industries and the community. We again refer to the *water through sand* approach. All these stakeholders should have a say in curriculum development as it relates to

TVET. In this way, a relevant curriculum that connects TVET, school and work and produces good outcomes can be created.

A recognition of local wisdoms and traditional technologies unique to our Pacific Island communities must be melded or integrated with modern day technologies. Electronic methodologies can be used to advantage to optimise both.

Challenge 5

Quality assurance

Accountable evaluation and assessment procedures are a must if TVET providers, schools and industries are to trust one another. Efficient accreditation systems and policies need to be put in place to ensure quality in evaluation and assessment procedures.

Assessment and evaluation must be a continuous process for students, teachers and TVET systems. Our keynote speaker alerted us to the need to review our assessment and evaluation procedures. He said that educational reform in the classroom can start with a constructive change in assessment and evaluation modes. For students, assessment must be consistent and comparable for individual learners and among learners. It must also take into account experience-based and competency/performance-based approaches to learning. Individual and group learning strategies, as well as snapshot and longitudinal approaches, are to be included as part of assessment and evaluation. If there is a commitment to reforming an educational system, this is the way to go; changing assessment and evaluation methodologies will change the way teachers teach.

Teachers and students should be encouraged and offered practical opportunities to research and offer their own suggestions for better teaching/learning, assessment and evaluation. Teachers need to understand the family contexts of their students by researching them. Getting to know students' families will enable teachers to see differences in the way students learn and what might inhibit their learning. It also may provide clues to ways of more effectively assessing their own teaching and the

learning of the students. It will certainly encourage teachers to be more responsive to students' needs.

In fact we think the following specific outcomes will be achieved if teachers are active researchers.

- There will be a powerful influence on the way teachers teach and what is taught in the classroom.
- They will have a greater understanding of and commitment to performance based learning.
- They will see and understand their teaching/learning longitudinally rather than through a short-term snapshot lens.
- They will move away from a standardised, one-size-fits-all approach to teaching/learning, assessment and evaluation strategies and begin responding to changing circumstances and needs.

Students themselves should be given every encouragement to be researchers. Even five-year-olds have the capacity to conduct simple research and learn from their findings. All students can be taught how to gather materials, to conceptualise, to form generalisations and to take positive actions as an outcome of their findings.

Another important part of quality assurance is professional staff development. Staff members who are not offered these opportunities become stale and lose their ability to inspire students. Staff should be offered overseas attachments, continuing education opportunities, incentives for continuing development and real encouragement to strengthen their teaching by active research. Simply sharing the excellent resources already available in the Pacific can often create these opportunities. There is not always a need to seek such services from western systems.

Challenge 6

Inadequate accessibility to TVET

We suggest the following practical solutions to this Pacific-wide problem.

1. For students in remote islands and those unable to access the urban-based TVET learning opportunities, modern technology through the distance-learning mode can be utilised. Already there are Pacific-wide systems in place that enable students to access distance and flexible learning, open distance learning and interactive distance learning. Improvements to this already existing system would certainly improve TVET access.
2. Within communities, in towns and cities and villages across the Pacific region, there are community members who are simply not aware of TVET opportunities. There needs to be a more aggressive stance taken to inform the whole community about TVET options and the advantages of becoming involved. Publications, newsletters, radio broadcasts, videos and short television presentations could assist this process.
3. Career expos in and out of schools could be promoted by career teachers and career liaison officers to inform everyone of the opportunities offered by TVET. Campaigns to publicise the many career opportunities available to students through TVET programmes could be the objective of career expositions.

Models of global and regional practice for the Pacific

As part of the ongoing challenge to bridge the gaps between school, TVET and work, best models of TVET practice need to be identified globally and in the region itself. These models should be examined, and transferable practices identified. We know that these models include:

- community-based learning modules that utilise local cultures and traditions
- separate schools for TVET
- secondary schools with a separate TVET stream
- dual enrolment or a franchise system
- secondary schools that include TVET subjects
- post-secondary and polytechnics
- distributive models
- work experience and workplace training.

The details of how these models work need to be documented by a Pacific task force and the details disseminated to all TVET stakeholders across the Pacific.

As part of Pacific regional development, we advocate a local task force or think tank approach that:

- identifies issues and potential solutions
- promotes TVET
- creates new visions and pathways for TVET in the Pacific
- pulls together resources and establishes strategies for sharing these resources for training, for service and for a continuous improvement of the TVET teaching/learning process.

We also see the need to build a bridge between the north and the south Pacific to strengthen the TVET sector across the whole Pacific region.

Bringing our chapter together

We believe that there are definite possibilities and opportunities for syncretising the best of the global, the best of the regional and the best of the local in bridging the gaps between education and TVET, and education and the world of work. Already, there is strong evidence of this process emerging, as shown in the presentations and case studies. Also, it is clear that there are intrinsic elements of TVET already being activated in most Pacific cultures. Perhaps the first step is to syncretise the Pacific region.

Our group's vision for the development of effective connections between education and TVET and education and the world of work is that *our communities will have an effective, functional, seamless and holistic educational continuum for lifelong learning for the development and sustainability of our Pacific communities.*

We have determined the following as goals for our TVET learners. We would like to see our TVET students:

- acquire deep human and spiritual values and attitudes, and a sense of self-worth, self-esteem and dignity that is grounded in their cultures, traditions and languages

- able to work alone or with others in a team with integrity, honour, honesty, punctuality and responsibility
- able to adapt to varying situations, to know and to understand problems and issues
- confident to work out solutions creatively
- able to solve conflict peacefully
- have a good grasp of the reality of the world, of themselves and of others
- able to process some general knowledge and to specialise in some field or some area of work
- acquire the ability to continue learning and to pursue lifelong education in a learning society.

In realising our vision and these learning objectives we know that these factors are critical:

- government/political will to support the TVET sector
- co-operation amongst members of the community
- teachers who are able to facilitate and act as researchers
- accessibility to all in the TVET sector
- a paradigm shift: a change in attitude towards TVET by stakeholders
- attention given to the four Rs: Readiness, Relevance, Resources, Research.

We recommend these strategies, as they will facilitate effective pathways between secondary schooling and TVET, the world of work and a lifestyle based on self-sufficiency, self-reliance and/or self-employment. This cannot all be achieved in a hurry; small steps must be taken. To move from this point, we suggest that all those who are involved in TVET take small steps forward as you ask: Where to from here?

We now describe nineteen small steps that we believe will enhance any Pacific Island's TVET sector and will help bridge the gaps between TVET, and school and TVET and the world of work.

Small Step 1 Review current policies, strategies and systems related to education, training and the world of work in your country.

Small Step 2 Identify your TVET needs and global demands.

Small Step 3 Identify gaps and areas for improvement in your current TVET system.

Small Step 4 Find the strengths of your current TVET system so that you have a starting point to build on and refine.

Small Step 5 Identify other committed stakeholders and invite them to join.

Small Step 6 Build on each success to involve more stakeholders. Promote and share your successes to achieve your vision.

Small Step 7 Build stakeholders' morale.

Small Step 8 Reclaim dialogue with all stakeholders through informal and formal sessions.

Small Step 9 View problems as opportunities for growth; see them as vibrant challenges, from which learning and new directions can emerge.

Small Step 10 See TVET as a needs-driven means of enabling students to forge a sustainable livelihood, thus bettering themselves and strengthening the community.

Small Step 11 Make sure that TVET is demand-driven by industry.

Small Step 12 Review and implement a full range of steps for career development. Provide comprehensive and appropriate career guidance to every student throughout his or her schooling.

Small Step 13 Re-engineer the TVET curriculum to include the world of work, enterprise education and entrepreneurship.

Small Step 14 Establish a database of all students registered with TVET.

Small Step 15 Make sure that there are a strong linkages between TVET providers, communities and industries.

Small Step 16 Ensure that industry plays a significant role in shaping the curriculum.

Small Step 17 Focus on the development of your people and your country.

Small Step 18 Inspire governments to positively legislate on TVET issues and to create appropriate, affirmative TVET policies.

Small Step 19 Ensure that governments offer strong leadership and strong policy so that the issues of just compensation for TVET providers, equity, and job opportunities for TVET graduates are totally supported.

Guiding principles to achieve new visions and new pathways

If our TVET sectors are to be revitalised, we must take note of many important things that have been discussed at this workshop. In all our planning we must see that TVET is based on the three Hs, i.e. an educational process that in its delivery takes account of the head, the heart and the hand.

In addition, the four pillars of learning from UNESCO should be kept uppermost as we engage in the teaching/learning process: learning to be, learning to know, learning to do and learning to live together. Above all, we must focus on the learners learning to learn.

As TVET teachers we must see ourselves as facilitators and researchers, not merely repositories of skills to be taught. So we must become flexible teachers, able to adapt to change. We must keep in mind that TVET students are learners who must be multi-skilled so that their employability and their ability to be self-sufficient is enhanced.

Conclusion

At this workshop we have individually and collectively demonstrated that we are committed to the following principles.

- Education is the key to development.
- TVET is the master key to economic and social development.
- Secondary education, as a vitally important link in the education chain, needs strengthening and upgrading.
- Secondary education should be treated as part of UNESCO's Education for All mandate.

In accepting these challenges, we must return to our Pacific Island home countries with a determination and a real commitment to see these principles take wings from the page and become reality. So, in leaving this workshop, all of us must ask ourselves this question: What steps must I personally take to implement changes examined and discussed at this workshop?

16

TVET and secondary education: where do we go from here?

Rupert Maclean

Introduction

My final keynote address will be short because I believe we have reached a point in this workshop where each one of you, as a representative of TVET in your own Pacific Island nation, has to formulate a plan for your own country. The workshop has been like an intellectual feast, but the real question is: How will you make a difference at home?

Points of agreement

Let me commence this session by briefly summarising what I see as some points of agreement among you. These points of agreement should provide a firm foundation on which you can build your national TVET plans.

First and foremost, we have agreed on the importance of education and the central role of TVET.

We affirm that education is the key to development.
We are confident in our belief that
TVET is the master key to economic and social development.

Our second area of focus and agreement has been on secondary education.

We see
secondary education as a vitally important link in the educational chain.
We believe
that, overall, secondary education needs substantial strengthening and upgrading.
We advocate
that secondary education be treated as part of Education for All.

The third area of agreement relates to the role of TVET in secondary education.

We strongly agree
that TVET should be an essential, core part of secondary education.
We recommend
that a re-engineering of TVET in secondary education is necessary, rather than a tinkering with the system.
We agree
that the key issues identified in this workshop need to be addressed in each Pacific Island nation in order to strengthen and upgrade TVET in secondary education.
We affirm
the importance of a holistic approach.
We would like to see
TVET permeating the entire curriculum: a water through sand approach.

Evaluation and assessment

The issue of evaluation and assessment was central to our discussion. We agreed on the importance of improving our evaluation and assessment procedures. We know that we must conscientiously review evaluation and assessment in our own countries and discover appropriate and effective ways of testing.

I believe that criteria-based assessment is an efficient mode of evaluation and assessment. First discover and establish criteria, then tell students that these are the criteria against which they will be tested. Tell students clearly; do not make it a guessing game and then it will work. Students will know exactly what they need to achieve to gain their TVET qualification.

Quality assurance is a key issue in assessment. It is essential that there is consistency and comparability over time for individual learners and between learners.

The next challenge is to face the question of how best to test both theory and practice. What methodologies are best suited to achieve this end? In reflecting on this challenge there are a number of key issues that should inform our thinking.

Key Issue 1
Experience-based approaches versus *competence/performance-based approaches*

Key Issue 2
Individual approaches versus *group approaches*

Key Issue 3
Snap shot approaches versus *longitudinal approaches*

Key Issue 4
How can we ensure that teachers are active researchers?
And that students are involved in the research process?

Have we all considered the wide-ranging approach to assessment and evaluation suggested above? Can we implement a variety of new modes that will enhance TVET in our own country? **The mode of assessment and evaluation that we adopt will determine our teaching methodology.**

TVET teachers must understand their students, their individual differences, their backgrounds, and their attitudes, and must be responsive to their needs. Teachers must gather information about their students (teachers as researchers) and then make appropriate decisions about assessment and teaching methodologies. Use a *smorgasbord* approach to assessment; do not hesitate to use a variety of assessment methodologies.

Putting together appropriate assessment modes and teaching methodologies is best done collaboratively. Do not overlook the contribution students can make to this process. Involving all stakeholders is a true democratic approach known as meritocracy. Compare it to a flight of migrating geese; we are familiar with the V formation of the flight, but are we aware that the leader sets the pace, and that there are several leaders who change from time to time, allowing periods of rest for each other in turn? Think about what can be learnt from this analogy.

As you, the TVET leaders in the Pacific islands, contemplate how you can strengthen your TVET sectors let me say that UNESCO-UNEVOC is there to provide support. First, however, I have to remind you that we are not a funding body. We can provide seed money for you to plan and decide from whom and how you will access major funding for TVET in your country. We can provide consultants free of charge and so work with you to mobilise funds.

At this point the country groups met to discuss the question:

What steps will you take when you return to your country to implement changes examined and discussed at this workshop?

Looking ahead

The list below represents a condensed picture of what the participants planned to do on returning to their countries.

1. Present a report of the workshop to Ministry/Department of Education officials and other stakeholders.
2. Carry out a review of the current status of TVET, including the assessment and evaluation procedures in use, in order to ascertain where and how revisions can be made, using ideas and recommendations from the workshop.
3. Prepare presentations for the wider community—people in business and industry, teachers and parents—in order to encourage them to take on the new ideas from the workshop.
4. Use the local media to arouse interest.
5. Involve local industries in work experience for TVET students.
6. Encourage TVET in elementary schools.
7. Strengthen career guidance in schools in order to encourage students to study for a career that needs TVET.
8. Foster and support team-building among school staff in order to strengthen TVET in schools.
9. Work out ways of facilitating the sharing of resources with other countries in the Pacific.
10. Strengthen existing networks in the region.

The general feeling was that the participants had benefited a great deal from the workshop and were keen to share what they had learnt with those who were in a position to effect improvement. They saw the need to review, revise, raise awareness, empower others and share resources, at all times keeping in mind the points of agreement discussed in this chapter, as well as the inspiring wisdom from other participants at the workshop.

Front row (from left): Debbie Tkel-Sbal (Palau), Emery Wenty (Palau), Zita Pangelinan (PREL Board Member – Guam), Dr Robert 'Bob' Teasdale (PRIDE Project), Camsek E.Chin (Vice-President, Palau), Mario Katosang (Minister for Education, Palau), Dr Rupert Maclean (UNESCO UNEVOC), Dr Akhilanand Sharma (USP), Perive Lene (PATVET), Josefa Natau (Fiji)

Second row (from left): Hanson Sigrah (Kosrae, FSM), Maseiga Osema (Tuvalu), Libby Cass (PRIDE), Winsley Degoba (PNG), Johanna Gifford (Cook Islands), Viliame Rabici (Fiji), Eci Naisele (Fiji), John Atkins (Vanuatu), John Niroa (Vanuatu), John Guerrero (CNMI), Bernard Grundler (Nauru), Peter Hagileisa (Yap, FSM).

At the back: John Dinbi (PNG), Clarence Samuel (Marshalls), Dominic Fanasog (Yap, FSM), Joe Logha (PNG), Harry Besebes (Staff, Palau Vice President), Samuel M. Lafolua (Tokelau), James Poihega (Niue), Faamoemoe Sotiata (Samoa), Bedbii Chokai (Palau), Kiniosi Edmond (Chuuk, FSM), Gary Ueno (Marshalls), Epeli Tokai (PRIDE), Allison Nashon (Marshalls), Stevenson Frederick (Pohnpei, FSM), Dave Orrukem (Palau), Villiany Thomas (Palau), Sherman Daniel (Palau), Siaosi Sovaleni (Tonga), Sinton Soalablai (Palau), Theodora Borja (Palau), Raynold Mechol (Palau), Leonaitasi Taukafa (PRIDE)