

## EMIS, AN AGENT FOR REFORMING EDUCATION IN FSM

*“Information and communications technology (ICT) tools have the potential to improve the transparency of government decision-making processes....”<sup>1</sup>*

The Education Management Information System (EMIS) currently being implemented through the Department of Health, Education and Social Services (DHESA), Federated States of Micronesia (FSM) with assistance through The Asian Development Bank (ADB) has the capacity to bring change of substance, to the delivery of educational services across FSM.

The EMIS *is not* a one-way stream of prescribed data demanded from schools to meet the increasing demands of bureaucracy to assemble tables of data and inventories of resources. EMIS is not an administrative tool for the keeping of totals on chairs, sticks of chalk, students and staff.

The EMIS used as a management tool by schools, communities and at centralised departments, offers the opportunity to bring to education an interactive, consultative and collaborative process of on-time decision making for all levels of management. The EMIS creates a shift in attitude in educationalists, from passive accepters of why it won't happen to a proactive determined problem solvers surrounded by informed supportive colleagues.

The EMIS is a continuous cyclic flow of information from school to region to state to nation to international agencies and in return the school receives access to information to meet the schools needs from international agencies, the nation, the state and from the region.

The EMIS information flow is vital, relevant, succinct, concise, and adaptive in format; and most of all conducive to improved performance from students, principals, management, leaders and overseas observers of education in FSM.

The use of an electronic medium delivers information from schools in a convenient and expeditious manner. Benchmark information is gathered on pre-arranged dates to build standardised profiles across communities, regions, states and the nation. Currently the daily recording of teacher and student absence fulfils an administrative requirement for continuing donor funding from international organisations. However, using the very same information, the school principal can develop a local management strategy in staff deployment.

An example from one of our field-tests in EMIS, using one school's data showed a school staff of sixteen teachers, with an average of up to two teachers absent on any one day. The number of students in each class at the school averaged eighteen students. By increasing class sizes to twenty-two students per class two teachers are released from normal classroom teaching duties to become replacement teachers for absent teachers. On most days the Principal can now cover for all classes where teachers are absent. No more sending children home, doubling up with other classes or cancelling the Principal's tasks to “fill in” in the classrooms of absent teachers. The second obvious positive outcome for school management is increased parent satisfaction with the performance of Principal and staff. Parent satisfaction requires an enormous amount of effort to consistently achieve in any school community. To achieve this outcome from EMIS analysis at the local level of data collection is an activity every school leader should undertake for their school. The indirect outcome for schools and education is high parent satisfaction levels

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<sup>1</sup> *Governance in the Pacific, Focus for Action 2005-2009*, Mellor, T & Jabes, J Pacific Studies Series, Asian Development Bank, Manila, 2004 pp50

are achieved consistently is the reluctance of any Government to reduce education budget allocation.

An additional bonus for the school occurs on days where there are less than two teachers absent. The replacement teachers are freed for additional classroom support programs such as school evaluation, school policy development, curriculum materials production and student counselling. If senior teachers are used as replacement teachers, then the impact of their experience being distributed across the school daily is an incalculable positive to the well being of school learning environment.

The same daily absence data collection at the State level improves school management by monitoring the absence of teachers on a region and statewide basis. Analysis of the daily data identifies patterns of absence on a much broader spectrum. Schools experiencing exceptional periods of teacher absence are contacted immediately an absence trend is identified. In special circumstances such as severe illness, teachers may need to be deployed to the school concerned from adjoining schools, in other circumstances Principals may need State Government senior officials to support Principals in the counselling of staff. However, again, the intangible positive outcome is for the parents of children who will be assured that the State Education Department is aware of an evolving difficulty, but the Government is effectively managing the situation. The EMIS process is drawing school communities into involvement in the management of their schools.

In both models described it is not the fact that computers linking schools to State and National Education Departments is reforming the delivery of education to schools.

*It is the USE of the data being collected and analysed at all levels of management simultaneously that is bringing about reform of education to FSM.*

In the past there has been little point in collecting daily data as it could not be collected and collated and shared at all levels of management at the same time. Schools did have the data but it took time to be transferred to higher levels of management for collaborative decision-making. By that time the data was received at the State Office it was usually too late to use in any effective plan of action. The resulting plan of action was reactive and to the community perspective unnecessarily delayed. Government decision-making was unilateral and usually failed to prevent continuing damaging further consequences.

The new EMIS brings data into the here and now, for effective decision-making whether it be in the school community or at an international conference deliberating on current financial commitment to education in FSM. The new EMIS has the capacity to include the community in Government action at all levels of decision-making.

The EMIS is more than Government management and building local community capacity into local school management. EMIS is also a tool that gives teachers the opportunity to lead the local community in the determination of the cultural content of their school curriculum. Early indications from the field tests of EMIS across the four States indicates an over supply of teachers in elementary schools. Class teaching rates of 1:10 in the teacher student ratio. A cursory review of elementary teacher training programs show a heavy emphasis on the traditional curriculum areas representative of a first world model of education, with less attention to teaching methods.

Teachers are locked into a grade specific curriculum training models that focus on increasing curriculum content knowledge in conventional curriculum areas, largely to assist teachers reach an academic level entitling them to basic teacher registration. The teacher student ratio in schools cannot support the continuation of such a model. The further recruitment of teachers for elementary schools is not required. Even the most simplistic analysis of Elementary schools staff deployment shows Elementary cannot continue to be staffed on one teacher to each grade area where elementary school enrolments are less than 150 students. Government funding for education cannot continue to sustain such levels of staffing. It must be one of the first tasks of a national EMIS to provide a detailed analysis of teacher deployment and teacher training.

The capacity of EMIS to assist decision-making on teacher deployment leads to a second area of education reform across FSM. The identification of schools with teachers in excess of future sustainable school needs provides the opportunity to recruit all employed teachers to new training programs that promote new methodology in teaching. Worldwide, the past assumptions that all children's learning is determined by age to prescribed curriculum areas have been replaced with an emphasis on active learning embedded in local cultural activities.

Today modern education reform programs worldwide are centred on core school curriculum determined by Government policy but the nation's core curriculum requirements are embellished in locally managed schools by trained teachers to reflect the required living skills, regional values and strategic future of their complex national culture. The old education methodology of children relying on culturally irrelevant textbooks for their medium of learning is being replaced by the development of local curriculum materials, through global resources, to provide culturally relevant materials just as academically challenging as well as providing a context for learning that values their language and social customs.

In all countries around the world early education systems were predicated on the presence of textbooks as a cost effective medium for knowledge acquisition in schools. There is still a place for books in schools but not at the exorbitant cost to Governments and ultimately to parents that it costs in emerging economies. The World Wide Web (WWW) has created the opportunity for emerging nations to move in time with first world countries in education reform to utilise the concept of desktop publishing to create locally produced curriculum materials using culturally relevant knowledge. The National Geographic website is just as accessible to FSM students as to USA students. The EMIS technology is there to ensure access.

The access to the WWW is drawn through the EMIS. Information delivered to the world by schools is returned in kind by the WWW delivering the wealth of world knowledge back to the schools.

This wealth of knowledge becomes the medium for training FSM teachers. Schools with an excess of staff provide a staff member to train in downloading and publishing materials within the school, for the local school curriculum. Class teachers will plan their curriculum needs and provide their planning to the Resource teacher for sourcing and publication. Schools would need to match their EMIS equipment with printing facility and a laminator. Classrooms in FSM will be providing children with take home work sheets such as individually written reading materials in any one of the national languages of FSM as well as English. Parents will see their children's work professionally prepared within their school. School teaching resources build daily as downloaded worksheets are shared between teachers. The initial cost of printing and downloading is amortised against shared use of the curriculum materials in many classes, over many years.

The use of EMIS to identify schools in excess of affordable teaching staff entitlement creates a further opportunity to introduce reform to the education system. Whilst there is an oversupply of teachers, then the opportunity should be taken to upgrade the In-service program. Huge savings are possible to the Education Budget in the life of Compact 2 if the current practice of schools being staffed on same age/ same class programs is overhauled and a minimum teacher to class ratio of 1:25 is introduced. To move to the teacher: student ratio model for staffing schools then all teachers will have to develop skills in multi-grade teaching. In-service training in multigrade methodology can be offered in extended courses with no disruption to class teaching loads in schools whilst there is a surplus of teachers employed. The In-service in multigrade teaching is also a way to identify teachers who are comfortable and capable of taking the FSM education system to equivalence in quality and standards against most other first world education systems. The very objective for reform of the FSM education system.

The current age/class staffing structure assumes that all children have similar patterns of learning and maintain consistent academic progress throughout the time of their elementary education. This is a notion no longer supported in modern education theory. There are social reasons for grouping children of similar age. However, cross-age tutoring, even the monitor system of fledgling public education systems have consistently reported on the educational merits of children grouped with other children with different levels of acquired knowledge. The acceptance that children learn from children is the underlying notion of modern education. Children sharing knowledge together is a major attribute of the multi-grade classroom.

A multigrade classroom needs to be professionally guided by skilful teachers. Teachers need In-service training in knowledge acquisition of children that matches children's cognitive growth. Child centred learning relies on teachers recognising and encouraging children's learning needs at all stages of their development. Reform of education in FSM needs to introduce elementary teachers to multigrade teaching. Multigrade teaching creates a classroom ambience where learning becomes child focussed; the teacher the professional facilitator and the child striving to achieve, in a comforting and encouraging environment.

The shift from a teacher centred classroom to a child centred classroom requires a huge shift in attitude from teachers, reallocation of priorities in scarce education resources by management and a willingness by school community to be involved in the management of their schools.

The EMIS is the conduit that monitors in a time efficient manner, presents data for comprehensive analyses and effectively communicates the progress of these fundamental reforms through the whole educational community.