

Education with Production: the world of work and small enterprise development for formal and nonformal education

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This article introduces production units and small enterprise development in Indonesian vocational-technical schools and training institutions. It sets these developments against a background of a country which has experienced a massive economic downturn, a social environment characterised by redundancy in the formal labour sector and growing unemployment amongst secondary vocational-school leavers, and a political situation which remains fragile, at best. Selected small enterprises which are being developed by a vocational training centre and senior vocational secondary schools in the midst of this turmoil are described in the second part of this paper. The development of these enterprises raises questions for countries in similar situations and provides a model which could be adapted for other countries in the Asia-Pacific region.

Introduction

In an earlier edition of *Directions*, Jones and Mudogo (1994) discussed the importance of small business education for Pacific schools. They highlighted the importance of entrepreneurial studies for many students faced with prospects of unemployment after completing their schooling. This paper examines a system of education in Indonesia where curriculum and practical learning activities revolve around the world of work. This form of education provides an alternative for hundreds of thousands of young adults who are faced with unemployment on leaving school.

In Indonesia, a massive downturn in the economy has created havoc for a country of 200 million people. The country is made up of 992 settled islands (several involved in serious and ongoing

disputes) spread across 6,400 kilometres, people with 250 distinct languages linked by one national language – bahasa Indonesia. Apart from the huge population difference (greater than the whole of the Pacific with Australia and New Zealand included), the environment sounds somewhat familiar to people in the South Pacific with their own issues of distance, language diversity and unemployment. Perhaps, in somewhat the same way, the economic situation in Indonesia is forcing the Ministry of Education and Culture to find new and relevant forms of education and training for young people who have moved away from a traditional agricultural life and livelihood.

While the structure of education in South Pacific countries is different - in so far as Indonesia has a twin path of vocational-technical and general education at the secondary school level - there is a model here which could form the basis of more employment-oriented education. This paper discusses *education with production* in Indonesia and presents some examples of how this operates at senior secondary level in vocational schools, specifically in regard to small enterprise development.

Education, employment and a country in crisis

The downturn of the apparently booming south-east Asian financial state, a struggling national economy, and a socio-political situation which has continued to ferment even after the country's first free elections for many decades; this may seem an unusual time for schools and teacher training institutions in Indonesia to be establishing small enterprises. As this article points out, a rapidly changing national and regional economy and growing unemployment in the formal sector has changed small enterprise development from a concept within the education system to a necessity. What has long been accepted in the informal sector is gaining increased recognition in formal training programs in Indonesia, where production without practical entrepreneurial experience is seen as "short changing" students and trainers.

Before discussing small enterprise development within the education sector, some background to this move towards entrepreneurship and production units in the education sector is useful. In Indonesia, senior secondary vocational and technical schools (SMKs) are established to focus on a specialised area of study such as agriculture, arts and craft, business and commerce, hospitality and tourism (including clothing and beauty studies), social work, and technology. Each school is required to set up a Production Unit (*Unit Produksi*) which serves the double function of training and income generation. In turn, these units produce goods or provide services which can become the basis of small enterprises in keeping with the school's specialised curriculum area. The teacher training and upgrading institutions responsible for each area are also expected to lead the way with production units.

Unit Produksi are closely linked with the concept of *Pendidikan Sistem Ganda* – the dual system of education and training which requires ‘an active partnership between the school system, providing cognitive skills, knowledge and preliminary vocational training, and employers, providing specific job or trade related competencies, skills and training’ (Djojonegoro 1994a). As Djojonegoro, a former Minister of Education and Culture (MOEC), explains,

under this policy MOEC's vocational education and training system has been directed to LINK vocational and technical education and training directly to the labour market, and MATCH present and future requirements of Indonesia's industries ... the ultimate aim is to contribute towards establishing a demand driven “National Vocational Education and Training System” at the national level to meet the needs of the entire Indonesian economy” (Djojonegoro 1997).

The massive changes in Indonesia's economy are beyond the scope of this article but clearly there has been a rapid turn-around from a situation where, ‘in 1995 the gross domestic product (GDP)

grew 8.1 per cent, up from 7.5 per cent in 1994' (Abimanyu 1997), to the situation in 1999 where the Indonesian government was relying on loans from the Asian Development Bank, the World Bank and Japanese Government to help them service foreign debts and a draft budget 'based ... on assumptions of zero-percent economic growth, compared to a 13 per cent contraction last year, and the inflation level would drop to 17 per cent from 77.63 per cent' (The Jakarta Post 1999).

The *Unit Produksi* established in vocational-technical schools are seen as more crucial for their entrepreneurial aspect than ever before. Though they are meant to be a vehicle for students to practice their skills in a 'work' environment in addition to industrial placements, these units are also a vital means of students and teachers earning, and learning about earning, in the informal sector. While an oversupply of graduates from the vocational-technical system was predicted in the early '90s, Djojonegoro (1994b:27) offered some light for the future with his recognition that 'opportunities for gainful employment do exist in the informal labor market'. As never before in this decade, *Unit Produksi* offer some hope for Indonesian youth, faced with the real prospects of unemployment, economic collapse, reduced foreign investments in their country and increasing business migration out of Indonesia.

Education with production

Education with production (EWP) has seen various models adapted for different social and political environments. EWP was practised in its socialist form in China, where high school graduates worked in factories and on rural communes for at least two years before proceeding to further study or more selective employment. In quite a different context, EWP has been incorporated into western secondary schools curricula in the form of work-experience attachments (Hoppers 1985; Jones 1995). To some extent, this idea has been incorporated into the Indonesian 'link and match' where vocational-technical students' productive ability

is enhanced in their final year of study by relevant work experience 'conducted fully in the partner institution (industry/company) in which the real process of work is going on' (National Council for Vocational Education 1996: 13-16). However, while the MOEC acknowledges the resemblance of their dual system to the German and Swiss equivalents, it emphasises the importance for Indonesia to develop a system relevant to its own culture and world of work (Djojonegoro 1994a: 34).

A model of EWP which is most closely related to the present discussion on small enterprise development and production units in vocational and technical schools in Indonesia is that which has been implemented in South America and is found in schools in various African countries (Corvalan 1985; Hoppers 1995; Middleton 1991).

In the Indonesian setting, EWP can apply to both work-experience with education-industry links or to small enterprise or business experience. Here the focus is specifically on this second aspect of EWP and production units. As noted above, *Unit Produksi* are training units. They also have been designed with the distinct purpose of raising income for the school and those involved in 'production'. They are 'encouraged to be self dependent and fulfill the financial needs of the operation' (National Council for Vocational Training 1996:41). This has become an increasingly important aspect of *Unit Produksi* as government funding to schools has decreased and as teachers and students experience increasing hardship in the economic crisis.

In this situation, production units function as small enterprises, raising money for schools and training institutions, the production unit, and the participating workers. While students may choose to work in production units instead of work placement in industry, both experiences are encouraged as necessary for understanding the world of work. The specific examples, presented below, show how production units can operate as small enterprises in vocational education institutions in Indonesia, essential in a system which

demands that education and training are linked with the real practice of the workplace.

Production units in the Indonesian education system

Facilities for production and small enterprise

Because *Unit Produksi* are seen as integral to vocational-technical education at the senior level of secondary school (15-18 age group) in Indonesia, school complexes have generally been built or refurbished with rooms which can be converted for small enterprises. Many schools have established restaurants, beauty salons, shops, banks, post offices, or production workshops in the manufacturing area. Service centres are usually at the front of the school building with an entrance to the main road so that the public has easy access. Schools designed for technical training in the manufacturing field have different facilities to suit a heavier industrial situation. A similar situation exists in schools teaching arts and crafts. Schools with a social work focus have converted rooms for use as child care centres. Agricultural schools also cater for special production needs such as greenhouses and workshops for packaging or preserving their products. Because 70 percent of all curriculum in vocational-technical schools is practice oriented, equipment for production is generally available. In some cases, schools use limited stocks until they can earn enough money from their small enterprises to purchase additional materials and equipment.

Curriculum for production and small enterprise

In each of the three years of vocational school, part of the curriculum is devoted to entrepreneurship. Discussions with teachers suggest that this is insufficient to give students the marketing and business skills they would need to set up a small enterprise, no matter how good their actual production or service skills might be. In a new broad-based curriculum to be conducted in 1999, a discrete subject in entrepreneurship has been introduced for first year (age 15) students,

though some believe it would have been better suited later in the program, and dealt with in more depth and hand-in-hand with a practical component.

This highlights a problem many schools have in regard to entrepreneurial studies. As Van Bussel (1998) noted in the Sri Lankan context, while producers may be skilled in their own technical areas, they generally have little practical experience in developing small enterprises. In Indonesia, in those schools where the subjects of Business and Management are taught, teachers have theoretical knowledge but are infrequently involved in other departments or in schools teaching different disciplines.

The development of small enterprises in schools and training institutions

The final section of this article describes small enterprise ventures undertaken by a vocational teacher training institution, business/commerce vocational schools in Borneo, and a hospitality/tourism vocational school in Irian Jaya (West Papua).

A bakery production unit

One small enterprise established by the Vocational Education and Development Centre (VEDC) near Jakarta is a bakery and its shop. The *Unit Produksi* in the Food Production department had principally raised income by catering for meetings, training programs, and in-service activities held at the VEDC campus. Baking bread products for staff at VEDC ceased in July 1998 due to the rapid increase in flour prices, and the range of products and number of loaves had been limited.

Planning exercises with the departmental staff and Asian Development Bank Vocational-Technical Education project (VOCTEC) specialists raised new possibilities for a bakery shop outside the campus. Eventually this targeted a large estate where a large number of

expatriates lived. For this market, bread was a principal staple. Although a restaurant and general store supplied certain needs, bread products were purchased outside the complex. Therein began a series of meetings with VEDC staff and management, a large Jakarta bakery owner who was also a member of VEDC's food department industry panel, and the estate management. VOCTEC and departmental staff worked together in preparing budget projections. Various types of flour were priced and monitored closely as costs continued to rise. Questionnaires were prepared in English and Japanese for likely clients. The bakery proposal appeared to serve the double purpose of raising income for VEDC and providing a realistic small enterprise which could be used in in-service training programs for teachers.

As with any small enterprise currently being planned in educational institutions in Indonesia, initial questions were raised regarding personnel to operate the bakery and funding to establish the shop. The directive of the MOEC to establish *Unit Produksi* in schools and training institutions has not dealt with issues of 'staff' experience and teachers' workloads. Therefore, the most feasible alternative for the bakery and bakery shop was that staff should be hired to deal specifically with these duties. Initially, a staff member from the Food Production department was released from other work to act as manager alongside consultants in establishing the bakery shop. Two bakers from the same department were co-opted and sent for one month's intensive training to the 'partner' bakery. Graduates from local vocational schools were hired and trained to run the bakery shop. Although, in the initial stages, VOCTEC specialists were actively involved in arranging contract agreements, setting up the shop and organizing training for bakers and shop assistants, the process involved intensive and ongoing discussions with staff from the department who would eventually take over sole control of this enterprise. As the accounting skills required were more sophisticated than those held by people in Food Production, a staff member from the VEDC accounting department supervised

recording and reporting of finances and became integral to a hands-on training program.

The whole process was documented throughout. Much of this documentation included working material such as the business proposal, contract agreements, job descriptions of staff involved, budgets for a six month period, and a detailed time line. In this way, the enterprise has become a working example for replication in other VEDC departments, where small enterprises including a salon and child care centre are planned as *Unit Produksi*.

The issue of initial capital to set up the venture was dealt with in two ways. In this case, salaries of staff (technicians) could be assisted from the VOCTEC project funds for four months until such time as the business could take over salary payment and repay the loan. Costs of outfitting the shop (a pre-existing room on the ground floor of the estate office block) were shared by VEDC, the housing complex management and the VOCTEC project. Specialized equipment, such as refrigerated display cabinet and cash register, were moved from the Food Production department. Flour products and pastries which were purchased from the partner bakery for the first three months, were paid for from the Food Production department's current *Unit Produksi* catering funds.

Shops and general store production units

The next examples of production units are from vocational secondary schools in Borneo. Vocational schools have generally become quite successful in setting up small enterprises. Many of them in the business/commerce stream have small general stores, post office sales and banking services for the school population. Stores are generally situated to attract the general public. A typical production unit at a school in Banjarmasin, on the island of Kalimantan (Borneo) has a large store built at the front near the main road. It sells stationery items, dry food products, sewing materials and items generally found in any general store in Asia or the South Pacific.

While two full-time shop attendants are paid from the profits of this *Unit Produksi*, third year business/management students take it in turns to work in the shop. Accounting students are involved in the book-keeping, while one teacher is the overall manager of the unit. As noted above, all students study components of entrepreneurship in each of the three years of their study, though staff generally believe more exposure to business and marketing is essential if students are to set up their own businesses on completion of their studies.

Profits from this store have purchased a photocopier which raises additional revenue by photocopying for students and the public for a small fee. A refrigerator and freezer have also been purchased from profits, so now ice is sold to the public – another income earner for the school. Twice yearly, profits are divided up between those who have been involved one way and another in the *Unit Produksi*.

Another store in a Samarinda business/commerce vocational school (also on Kalimantan Island) sells telephone cards and post office supplies. The General Post Office pays commission to its agent, the production unit, for all stamps sold and mail processed. Mail is then taken to the distribution post in the centre of town or collected by the mail van when required. As with the Banjarmasin school, second and third year business students are involved in the shop's operation. If placements for work experience are difficult to arrange (as is sometimes the case in more remote areas), students can have prolonged exposure to work through the production unit shops, although generally staff prefer student exposure to work outside, even if this means two students sharing or alternating placements in the shop and in industry.

Both of these schools advertise their services through brochures, signs and large painted banners flying outside the school fence and, of course, by the usual word-of-mouth advertising which is the most common form of marketing in schools.

The Merauke airport coffee bar

The production unit described below, is a very recent development in a vocational school in Irian Jaya (West Papua). Merauke is a small town by Indonesian standards (with a commercial area about the size of Labasa in Fiji). It is situated less than 20 kilometres from the border with Papua New Guinea (PNG) and is a coastal town about one hour by air from Darwin in Australia. It is a major stopover for cargo ships. A rapidly developing tourist area, there are future plans for an international airport at Merauke, though at present there are three flights for passengers going to Jayapura (Irian Jaya's capital) each week, plus several flights to smaller towns in the interior of the island. Overland travel and trade between PNG and the Merauke area is permitted for local Papuans.

The vocational school in Merauke which focuses on hospitality/hotel studies has had intermittent small production activities where students prepared food for weddings or specific events on request. As part of a planning workshop on production unit enterprises, small groups of teachers and VOCTEC consultants conducted field needs analysis in industry and local businesses. One group met with management at the local airport and were invited to use an empty space, initially constructed as a bar/café, inside the airport waiting room. The situation was ideal for setting up a small business because there were four flights to Jayapura weekly, with more than ninety passengers, on average, travelling.

Staff met for detailed planning exercises. Time lines and tasks were discussed by trainers and allocated to groups of students and training coordinators. Initial funding to purchase items including crockery, hot water pots and electric jugs, was made available with VOCTEC funds. From an enthusiastic base, the "coffee bar" was ready for operation after one month active planning and implementation.

A group of four students (third year) and a supervising trainer or production unit coordinator operate the coffee bar for each outgoing flight. One student from the previous day's flight works with the next group of students so that there is a continual turnover of experience, with students training students. Cakes and savoury snacks are baked as part of the production unit activities in the school. Transport of students and products from the school to the airport several times a week is provided by members of the school council at the request of the local area education official (*Kanwil*).

The most important aspect of this new production unit activity has been careful planning. Before the contract was signed between the airport and school management, issues of staffing, transport, and costs for one year were investigated by staff and the production unit management team. Students were given initial training and have been involved in developing production and delivery strategies from the outset. Above all, support from senior education officials in Meruake and at the provincial level in Jayapura has been important in establishing this new venture with its high public profile. In the Indonesian setting, planning and obvious official support or sponsorship are key factors to successfully establishing small enterprises in the school environment.

Concluding comments

This paper has selected some typical production unit activities from vocational institutions in Indonesia. Other ventures could have been presented. These would be child-care centres for social work schools, small beauty salons, tailoring shops, art/craft kiosks in tourist hotels, the sale of agricultural products at local markets and to hotels and restaurants, or contracts for light machinery maintenance from the industrial schools. Some schools teaching travel and tourism arrange guided tours with transport and accommodation packages for factory workers and other schools or universities.

At times, the experiential aspect predominates, though through it all the business aspect and profit is highlighted. In the more successful cases, production units play a major part in teaching and learning, rather than being a part-time or fringe activity in the school program. However, as yet, these activities are not articulated formally into further education and although envisaged as being incorporated into a new subject called *Entrepreneurship*, are only considered indirectly for assessment purposes if replacing industry experience.

One feature to highlight by way of concluding is that a real mind shift is required on the part of educators who have been brought up to see the curriculum and formal teaching as the main function of schooling. The Pacific, too, can document its own cases of *education with production*, even in the formal school environment. Small enterprise development demands a meeting of theory and practice. Indonesia is attempting this through *Unit Produksi*.

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