

Part IV:

Conclusions

13. Maximising Cost-Effectiveness

Many strategies are available to governments and school principals who wish to improve the cost-effectiveness of schools that teach practical subjects. The main factors are:

- (a) improved management procedures, and
- (b) strategies for maximising benefits.

(a) Improved Management Procedures

This book has highlighted a series of procedures for improving efficiency in the system. It has concentrated first on ways to maximise use of the expensive components of practical subjects, and second on ways to locate extra resources. Each school needs a management information system to enable the authorities to monitor income, expenditure and unit costs. Particular attention needs to be paid to:

- the design of buildings,
- wise investment in equipment and facilities,
- curricula that are sufficiently broad to provide a range of choices and help achieve objectives but are not so broad that they are uneconomic,
- optimum use of teachers of practical subjects and of support staff,
- efficient purchase and use of teaching materials,
- good systems for maintenance and repair, and
- systems for generating revenue from practical subjects.

It must be stressed that the most cost-effective systems are not necessarily the cheapest. For example, at several points this book has emphasised the potential value of training, which could be costly but could yield even greater returns. It is also again worth stressing the need for effective security systems and for insurance against theft and accident.

Chapter 3 pointed out that unit costs in business studies, for example, are much lower than costs in industrial arts and home economics. Administrators need to compare these costs with the benefits to see whether investment in expensive options is justified.

(b) Maximising Benefits

The following ways to maximise benefits are worth highlighting:

- Introduce subjects related to employment needs within the community.
- Facilitate opportunities for pupils to meet and discuss career prospects with appropriate firms and people.
- Offer subjects that provide job relevance and incentives in the neighbourhood.
- Provide follow-up for students when they leave school.
- Offer only subjects that the institution is well equipped to teach.
- Establish a system of certification that is understood by the community, is respected by its members and provides:
 - * a measure of achievement,
 - * an indicator of success, and
 - * a qualification for employment.

Summary: Why Practical Subjects are Expensive

Capital Costs

- Buildings:*
 - Workshops need more space per pupil.
 - Raw materials and finished products need storage space.
 - Workshops need (i) floors that can hold heavy machinery, and (ii) special lighting, temperature and humidity facilities.
 - Workshops may need water, gas and electricity.
- Equipment:*
 - Specialised equipment is needed. Often it has to be imported.
 - New equipment must be bought to keep up with changing models and technologies.
 - Vehicles may be needed to carry materials and produce.
- Land:*
 - Workshops are usually larger than classrooms, so use more land.
 - Agricultural science needs land for farming.
 - Animal husbandry needs land to house animals and provide food.

Recurrent Costs: Salaries

- Teachers:*
 - Teacher costs per pupil are higher because (i) classes are smaller, and (ii) specialist staff often command higher salaries.
 - Longer training may be needed for specialist staff.
- Technical Support:*
 - Technicians, workshop attendants, watchmen and farm hands may be required.
- Administration:*
 - Payment of extra salaries is required.
 - Complex timetables must be drawn up.
 - Insurance, stock-keeping, etc. must be organised.

Recurrent Costs: Non-Salaries

- Teaching Materials:*
 - Raw materials and routine replacements of equipment are needed.
- Maintenance & Repairs:*
 - Buildings and equipment must be maintained and repaired regularly.
- Administration:*
 - Equipment, staff and pupils must be insured against fire and accidents.
 - Examinations in practical subjects may be more expensive.
 - Records must be kept on raw materials, sale of produce, etc..

Summary: Ways to Improve Cost-Effectiveness

Capital Costs

- Buildings:*
 - Design multipurpose workshops.
 - Avoid overspecification of construction and equipment. obtain advice on local needs and materials from teachers and administrators.
 - Use buildings intensively; at lunchtimes, in the evenings and with double shifts.
- Equipment:*
 - Share expensive equipment with other schools.
 - Avoid imported items.
 - Choose equipment that can be maintained easily and at low cost.
 - Buy equipment in bulk, perhaps by joining orders with other schools.
- Land:*
 - Design multistorey buildings
 - Confine agricultural science to land-intensive aspects, such as horticulture.
 - Share agricultural land between neighbouring schools.

Recurrent Costs: Salaries

- Teachers:*
 - Where possible, use specialist teachers only for specialist subjects.
 - If an individual school's demand for specialist teachers is too low, share specialists between schools.
 - Increase teaching loads and the size of classes.
 - Reduce costs of long pre-service training by providing in-service and on-the-job training.
- Technical Support:*
 - Employ technicians and supporting staff to relieve specialist teachers of routine work.
 - Require students to assist in workshop maintenance and repair.
- Administration:*
 - Establish procedures for stock control, purchasing, etc.,

Recurrent Costs: Non-Salaries

- Teaching*
 - Use locally-available materials.
- Materials:*
 - Buy materials in bulk.
- Maintenance & Repairs:*
 - Decentralise maintenance and repair procedures, or use contract maintenance units.
 - Purchase equipment that is cheap to maintain.
 - Train teachers in basic maintenance and repair.
- Administration:*
 - Provide incentives for school managers to save money.