

Introducing economic and industrial understanding – the primary school

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Abstract

Examines reasons for Britain's economic decline and sets the context for a partnership between education and industry. Examines the benefits of a work-invested curriculum with particular reference to the primary sector. Seeks reasons for and the consequences of the haphazard approaches that have characterized some of these links. Against this backcloth undertakes a case study to determine the content and economic concepts which might characterize a curriculum to include economic awareness. The models proposed were devised as part of the curriculum development in the author's school explaining the process and planning of its implementation within a preconceived curriculum framework. Concludes with an appraisal of the benefits of the initiative and the wider implications of links between education and industry.

Introduction

The author traces the relationship between Britain's industrial decline and our inability to interrelate the educational system with the economy, contending that this historical dichotomy has continued up to and including the last decade.

Turning to the case for introducing economic and industrial studies from the earliest stages of schooling, the author identifies the motivational potential of enriching the curriculum by drawing on the resources of industry not least by exchange of experience and personnel. Most importantly, he address the need for curriculum design to develop generic skills to both improve the quality of learning and equip the future workforce with the flexibility and problem-solving abilities for survival into the next millennium.

The context

Economic decline has been a central feature and concern of British politics and industry for about a century. From the affluence of the middle decades of the nineteenth century, when Britain produced half of the world's coal, iron, steel and cotton goods, and a third of the world's output of manufactured goods, there has been an inexorable and underlying trend of descent punctuated by occasional periods of relative recovery.

Remedies which have centred on economic policy as a panacea, have been largely short-termist and implemented without demanding social or political changes as preconditions, according to Gamble[1]. He cites studies which show how decline cannot be reduced to such technical issues or remedies, rather that Britain's problems lie in what are euphemistically called "supply-side factors" – productivity problems which are a construct of the social system. Thus education and training become factors in the game of regeneration. It would seem that a more long-term strategy which recognizes the interrelationship between institutions is necessary as we prepare for the twenty-first century. For example, the current rate of technological change and the ability of industry to adapt to world markets demands nothing short of a revolution in skills training according to Kirby[2]. The estimation by McKinseys that by the year 2000, 75 per cent of jobs in Europe will require professional skills and 35 per cent will

require qualifications to degree standard, led Kirby to the conclusion that skilled, talented and well-qualified people would be in great demand. With the completion of the Single Market, they will be able to work wherever they find the best standard of living and job satisfaction. He continued:

The UK has been slow to appreciate this and to recognize how essential a knowledgeable, skilled and adaptable workforce will be to economic success and social stability in the coming decades. It has tolerated the waste of talent implicit in the numbers of young people who leave school at 16, deciding not to continue with their education.

Two years later the Chief HMI, Eric Bolton, echoed the same point when addressing the National Association of Headteachers[3]. He argued that it was particularly important to invest in education during times of recession, ...so we can avoid squandering talents of ordinary children.

The Confederation of British Industry report *Towards a Skills Revolution*[4] argued the case for a partnership between industrial, political and educational institutions in order to realize a series of skill targets. Similarly the Government's White Paper, *Competitiveness: Forging Ahead*[5] contains national training and education targets in the context of an international perspective. The picture is not entirely depressing, however. The formation of organizations whose objectives include forging partnerships, encouraging industrial and inner city regeneration and investment has become a feature of the late twentieth century. Training and enterprise councils, Compacts, education business partnerships, Understanding British Industry, and School Curriculum Industry Partnerships are but a few of these. A schools industry movement has grown out of the need for partnership between industry and education, initially targeted towards the secondary phase. However, the 1980s saw major expansion to all sectors of education, with an enormous growth in the volume of primary schools-industry work. That growth was such that DES Statistical Bulletin 12/87[6], estimated that about half of all primary schools had some link with industry during Industry Year 1986. Two years later, the Department of Trade and Industry's Enterprise and Education Initiative set the target of placing as many as 10 per cent of all teachers in an industrial placement in any one year.

The recent merger of the Government's Education and Employment Departments may also be significant. The Secretary of State, Gillian Shephard remarked at the 1995 Conservative Party Conference:

The mortar board and the hard hat have finally united[7].

In this context it is reasonable to ask: Of what benefit to the primary school is an industry link or study?

Why should a primary school study industry?

It seems anomalous that in times of economic recession characterized by youth unemployment and the collapse of large sections of Britain's manufacturing industry, the schools-industry movement has continued to grow and gather momentum. The nature of the movement itself is perhaps one reason for this. Organizations and links have not solely been established for the utilitarian purposes of preparing young people for the world of work, or for that matter unemployment; rather there is a diversity of approach. For example Jamieson[8] argued that in adapting to changing educational and economic scenarios, the concept of "education for enterprise" has been established and there are signs that the curriculum has become more industrially oriented. He continues that there is now a wealth of quality educational material, with support and information available developed by industry and commerce. There are more industrialists and trade unionists working with teachers on both the design and the delivery of the curriculum, and more pupils and teachers going out to industrial places of work in order to study aspects of the economic world.

The fact that everyone is involved in economic life, that children are aware of people at work around them, whether paid or unpaid, and that they see and participate in economic exchanges taking place, suggests the necessity to devise a curriculum which seeks to develop economic and industrial understanding. Because children will become producers, consumers and citizens, it is important that the education they receive helps them to make sense of their experiences of working life. It is recognized that a curriculum which embraces an enterprise element can develop process-based entrepreneurial skills and key generic concepts applicable to many areas of the

curriculum at all phases of education. Both Smith[9], and Ross *et al.*[10], highlight concepts such as co-operation, conflict, interdependence, power, change and division of labour. The relevance of such a curriculum can be further realized if one contemplates the constituent parts of what might loosely be termed economic and industrial awareness:

- economic understanding implies being aware of how resources are used: materials, skills and time;
- industry refers to the places where people work together, including manufacture, transport, service industries, public and local council services and the voluntary sector;
- enterprise education means developing those personal qualities associated with being enterprising, i.e. problem solving, initiative-taking, team work, flexibility. It also means taking part in small-scale enterprises of a community or business nature.

The inclusion of these elements in the primary curriculum would help to develop those necessary process skills and support an experience-based learning environment:

...active learning and a sense of purpose and success enhance pupil's enjoyment, interest, confidence and sense of worth.

Key skills such as: observing, enquiring, analysing, questioning, evaluating, reflecting, hypothesizing, testing, decision making and communicating can be developed through an industry-oriented curriculum. These essential constituents of the investigative process are vital to children's learning, and consequently receive prominence in the guidance and prescriptions of the New National Curriculum.

As links are contemplated, the question "what's in it for us?" is applicable to both industrial and educational sectors. The argument for the inclusion of an economic-oriented and industry-linked curriculum appears difficult to refute on educational grounds as one ponders the broad aims and principles of primary education as described in HMI's *The Curriculum from 5-16*[11]. These include:

- developing lively and enquiring minds, the ability to question and argue rationally and to apply themselves to tasks and physical skills;
- helping pupils to acquire knowledge and skills relevant to adult life and employment in a fast changing world;

- understanding the world in which they live, and the interdependence of individuals, groups and nations;
- appreciating human achievements and aspirations;
- using language and numbers effectively.

The training of the mind, the development of key generic skills and concepts and the relevance to every child's life provide ample justification for the incorporation of economic and industrial understanding as a cross-curricular theme in the whole curriculum[12].

Recognition of this is acknowledged if one examines the Orders and non statutory guidance accompanying the introduction of both the National Curriculum and OfSTED inspection cycles. The National Curriculum Council for example, devoted the fourth book in its curriculum guidance series to education for economic understanding, suggesting its relevance to other subjects and also to National Curriculum Attainment Targets, now Programmes of Study[13].

The revised OfSTED inspection handbook[14] brings education for economic and industrial awareness under the scrutiny of the inspectors as all areas of the teaching and learning process are inspected.

Inspectors must evaluate and report on...the contribution which the school's links with the community make to pupils' attainment and personal development[14].

The inspection team is instructed to make judgements:

based on the extent to which...the school's work is enriched by links with the community, including employers[14].

These quotations provide validity for the case, but teachers face problems of curriculum design to implement these fine ideals.

Schools-industry links

The links between education and industry have been sporadic until very recently. It was perhaps only after Industry Year 1986 that many of the aspirations of newly formed organizations such as the School Curriculum Industry Partnership and Understanding British Industry started to realize the benefits of involving primary children in industrial projects.

At a level more relevant to the primary phase, even the most seemingly innocuous term such as "enterprise education" has until recently been politically coloured. It is

suggested by Iredale[15] that the concept of enterprise was nothing short of a political strategy devised by the Conservative Party linking entrepreneurship overtly with capitalism. Coffield[16], described “enterprise” as a term created by the Conservatives and used as a keyword to describe a set of social, political and economic values. He considered that the term had now become pervasive and was attached to initiatives designed to combat the decline of the British economy. It may be the reason why schools-industry links have not been universally popular and why for that matter the industry-education interface and also the extent and rigour of curriculum development in this area, was described by Swallow, as “a series of ritual steps in an unco-ordinated dance”[17].

Before embracing such ideas it is necessary to consider the nature of the curriculum focussed on economic awareness and the contribution it can make to conceptual development for children in primary education. If the partnership between industry and education is to be truly reciprocal, then it might also be enlightening to examine what industry requires of education, compatible with educational objectives for developing economic awareness. We should also understand how children respond to major economic concepts such as money and exchange, supply and demand and so forth. Research into this topic is scant and is undoubtedly an area that needs proper investigation.

Designing an appropriate curriculum: content and concepts

Much of what has been attempted in the primary curriculum to encourage economic awareness has to date been rather piecemeal and unco-ordinated with regard to the whole curriculum and to a development of economic concepts[17]. There is nevertheless evidence about the kind of activities and content that should make up that curriculum.

Many organizations and businesses now produce teacher-support material designed not only to give ideas for activities, but also to develop specific economic concepts.

Organizations such as the Primary Schools and Industry Centre, and the Shell Centre for Industrial Studies argue the need for a balanced curriculum with a variety of approaches and experiences which would encourage:

- (1) Children to visit places of work in the locality, exploring:

- the differing jobs and skills;
 - production – including scientific/ technological processes;
 - staffing and organization;
 - transportation of goods;
 - customers;
 - decision making;
 - advertising and marketing.
- (2) People, other than teachers, to visit the school to talk about their work – parents, governors, local services, people from local business, to explain:
 - how businesses are managed;
 - services provided;
 - trade unionism;
 - private and cooperative workplaces;
 - automation and the change in work practices.
 - (3) Children to run mini-enterprises to learn inductively about processes and activity in the world of work. These could include:
 - brainstorming;
 - conducting surveys;
 - team working;
 - borrowing;
 - advertising;
 - manufacturing;
 - marketing;
 - accounting;
 - distribution;
 - reporting.
 - (4) Simulation of a workplace in the classroom. This involves problem-solving analysis and resolution of conflict in a realistic context.
 - (5) The testing of consumer reaction to both products and services, value and quality.

From the specific activities devised by the teacher, a series of skills, concepts attitudes and knowledge can be developed. As an overriding priority, King[18] suggests that an education in economic awareness should aim to develop the following in children, irrespective of age or aptitude:

- a general interest in economic matters;
- some knowledge and understanding of basic economic ideas;
- skills to investigate, analyse, ask questions, take decisions;
- the capacity for the understanding of others’ viewpoints;
- the ability to participate effectively as consumers, producers and citizens; and
- a solid foundation on which subsequent education and experience can build.

He then suggests a series of objectives, some extremely specific which he contends would enable progression through the primary school including concepts such as production, distribution and supply and demand. He concedes: "Our present knowledge of how children understand these areas is limited".

The importance of core skills

If the schools-industry partnership is to be reciprocal, then any curriculum must have regard to the needs of industry and in particular must acknowledge what business requires of education. Members of the CBI stressed the need for the core skills of numeracy, literacy, computer competence, good communication skills, team-working and problem-solving skills. Similarly, members of the TUC considered basic skills vital, suggesting that team-work and problem solving should also become "core skills".

Such evidence is reinforced by experience at a local level. The author on a three-day placement to Boots in Halifax was in an ideal position to investigate these matters. The following account charts his experience.

At Boots, 12 employees ranging from the store manager to shop floor workers were asked what the company required of education. The most illuminating responses were as follows:

Young people should be able to show initiative and drive. They must be able to work as part of a team for the good of the company. They must be literate, numerate and be able to respond to change (Employee A).

They must have a positive attitude. So many of our work experience pupils have a negative and condescending attitude. They complain too much and are not prepared to work hard enough... Yes, they need basic skills, but more important is their attitude and their loyalty to the company (Employee B).

They need to learn to be respectful, punctual and ready for work. They also need to be able to read, write and add up. They also need to know a lot about computers (Employee C).

They need to know a lot more about the world of work than they do. When most of our youngsters join (the company), they know absolutely nothing about business and industry. They often have the wrong kind of attitude and you wonder where that's come from (Employee D).

They need to be able to add up and use computers. The numbers of our workers who find this difficult even though they all sit an exam, bothers me (Employee E).

It could be concluded from this initial investigation that the following core skills were necessary:

- communication, numeracy, literacy, IT;
- problem solving;
- team working; and
- initiative.

They also need to be responsive and have a positive attitude to industry.

Thus both academic views and views reflected in industry lead one to the conclusion that core skills, positive attitudes, appreciation and realism should be a central focus of the curriculum and all the evidence suggests that these objectives and values are relevant at all stages of the educational process.

The Flockton CE (C) first school initiative

In order to incorporate economic awareness into the curriculum at the school, staff decided to use the school's existing topic structure, exploiting the opportunities for industry-based objectives and activities where relevant. It was decided to approach the task from a cross-curricular perspective. The two main concerns were:

- (1) to design a series of experiences which would give a balanced approach to a variety of economic activities; and
- (2) design a curriculum which showed conceptual progression.

A series of curriculum meetings was held with all teaching staff to develop a framework for the incorporation of economic awareness into the existing curriculum. The school had recently devised a two-year topic cycle, taking into account the changes made post Dearing. Because of the cross-curricular nature of economic and industrial themes, it was decided to retain the topic base, and identify opportunities for industrially-oriented activities.

It was recognized that some topics and areas of experience were more appropriate than others and also that certain areas of the curriculum should lend themselves better to economic themes. The programmes of study were examined and a breakdown was made of those deemed most relevant.

The staff then started to examine the kind of activities that could characterize this curriculum. They were presented with and agreed the variety of approaches promoted by

such organizations as Enterprise Awareness in Teacher Education, namely:

- children visiting places of work;
- adults other than teachers visiting school;
- children running mini-enterprises;
- children operating simulations; and
- the testing of consumer reactions.

In order to deliver a balanced curriculum to all of the children in the school from reception to years 5, it was agreed that each child should experience all of these approaches during their life at the school, and that in each classroom there should be a similar range of activities.

The staff debated the kind of economic concept that could be developed. It was agreed to use the guidelines from Curriculum Guidance 4. However, because of what was considered to be a rather arbitrary listing of concepts in the document, it was decided to regroup these under broader conceptual headings, relating each to key stage 1 or to key stage 2 as appropriate.

It was agreed that a balanced curriculum should similarly demonstrate a range of economic concepts both throughout the school and within each classroom. The aim was that by the time the children leave the school, they will have experienced and developed a variety of concepts through a full range of activities.

The staff then worked together to agree specific classroom tasks and industrial links which might contribute to that balance and progression. Relevant topics, economic activities themselves, the areas of experience, economic concepts to be covered and National Curriculum programmes of study were then cross-referenced. Links are currently being established with industries and relevant individuals. Links have been established and preparatory visits made. The staff would like to “try out” the first year of the two-year topic cycle, then perhaps modify and refine the progression focused objectives in the light of experience. Greater knowledge of the development of key economic concepts in children from reception age to year 5 will undoubtedly contribute to this process, to provide a more co-ordinated, progressive and appropriately differentiated curriculum.

This formed the planning basis of our new curriculum design.

Conclusion

It was once thought that industrial understanding should extend solely to pupils of secondary school age. However, since children of all ages participate in society and consequently have some exposure to economic issues, it is not acceptable to restrict this entitlement. It must extend to the primary sector taking account of children’s conceptual awareness.

The importance of the process-based skills and attitudes cannot be over emphasized. Involving children in an education for industrial awareness will hardly regenerate the economy! However the attitudes we might aspire to instill, the stereotypes we might hope to dispel, the extent and full reciprocity of the vibrant partnership between education and industry we might wish to encourage – should engender a much more positive attitude between education and business.

This is so important because the pupils of today will be the wealth creators of tomorrow, operating in times when the transferability of skills, the likely expansion of world markets and the European dimension will require the facility to increasingly respond proactively to change. Their positive attitudes and objective unbiased approaches will be prerequisites for operating in such a competitive society.

The development of such skill and ability must be addressed at all stages of intellectual progression. It cannot be bolted on to the curriculum: rather it must be incorporated and integrated within a curriculum up to and beyond the mandatory stages of education.

Unless the UK is to go backwards into the future, industry and education must come together (Handy quoted in Swallow[17]).

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