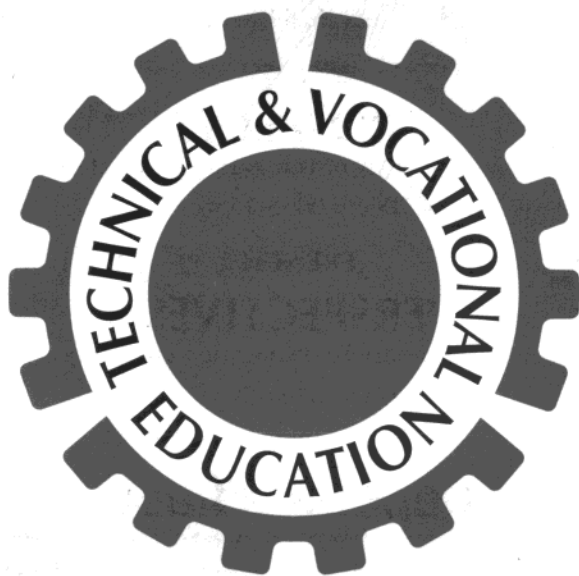


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quarterly review of
comparative education

ISSUE NUMBER **109** ONE HUNDRED AND NINE

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PROSPECTS

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VIEWPOINTS/CONTROVERSIES

- Indigenizing teacher education in developing countries:
the Indian context *V.K. Raina* 5

OPEN FILE: TECHNICAL AND VOCATIONAL EDUCATION

- Technical and vocational education
for the twenty-first century *Colin N. Power* 29
- Vocational and technical training:
setting the record straight *Claudio de Moura Castro* 37
- The roots and nature of reforms in vocational education
and training: an analytical framework and some examples *Fred Fluitman* 55
- Technical education:
a dead end or adapting to change? *David Atchoarena
and Françoise Caillods* 67
- Structural adjustment and vocational education
in the Republic of Korea: the struggle between markets
and the institutionalized system *Kioh Jeong* 89
- On becoming a well-behaved economy:
the case of Brazilian education *Ken Kempner
and Ana Loureiro Jurema* 105
- Two international centres for technical
and vocational education *Frans Lenglet
and Christopher McIntosh* 121

TRENDS/CASES

- The social knowledge of children:
psychogenesis and social representations *José Antonio Castorina* 135

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INDIGENIZING

TEACHER EDUCATION

IN DEVELOPING COUNTRIES:

THE INDIAN CONTEXT

V.K. Raina¹

Introduction

Passionate pleas have been made from various quarters of the developing world to reorient educational concerns towards their own socio-cultural realities. In this broad context of a need for change, 'calls' for the indigenization of the social sciences have been heard. Atal (1981) pointed out that such a movement began to gain momentum in the early 1970s when scholars from the Third World raised their voice against the implantation of the social sciences which tended to perpetuate 'captivity' of the mind.

It is in this context of the predominance of Western theories, methodologies and approaches, often found to be unworkable in developing countries, that some serious demands have been made for evolving theories and methodologies suitable for these countries. In fact, as Sharma (1992) has observed, the question of indigenization involves not only freedom of choice of topics but also an examination of 'universally' accepted paradigms and their applicability in the Indian context.

Original language: English

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For quite some time, non-Western countries have voiced the need for indigenous paradigms to deal with concepts and problems in specific socio-cultural perspectives (Atal, 1981; Dube, 1988; Ho, 1988; Kim & Berry, 1993; Misra & Gergen, 1993; Misra, 1997; Moghaddam, 1987; Serpell, 1984; Sinha, 1981). There is a growing awareness—particularly in India—that, in order to carve out an independent intellectual identity, it is essential to free ourselves from issues rooted in the Western world. Echoing such sentiments, Indian economist Patanik (1996) has rightly observed that by intellectual standards, no centre in India could flourish merely by mimicking what was happening abroad, or by showing proficiency in solving problems that had been posed abroad. The problems had to be rooted in our own social reality, and the effort to grapple with them had to be very consciously located within the intellectual endeavour of our country.

Conceptualizing indigenization and its interface with the educational process

In recent years, the phenomenon of indigeness and indigenous knowledge has come to acquire the status of one of the more glamorous phrases dominating the lexicon of development practitioners and theorists (Agrawal, 1995). It is perceived that whereas 'Western' social science, technological might and institutional models seem to have failed, local knowledge and technology—reified as 'indigenous'—are often viewed as the latest and the best strategy in the continuing fight against hunger and poverty (Atte, 1992; Richards, 1985; Tjahjadi, 1993). There is an influential school of thought in this country which strongly believes that model(s) of development derived from the West are a primary cause of India's 'crisis' (Kothari, 1988) and that there is a need to replace them with an alternative model based on indigenous experiences and knowledge.

Indigenous knowledge, in the words of Dei (1993), is the 'common sense knowledge and ideas of local people about the everyday realities of living'. Dei, elaborating it further, observes:

It [indigenous knowledge] includes the cultural traditions, values, beliefs and worldviews of local people as distinguished from western scientific knowledge. Such local knowledge is the product of indigenous people's direct experiences of the working of nature and its relationship with the social world. It is also a holistic and inclusive form of knowledge.

India, like many other countries, had a fairly advanced indigenous system of education. Ancient universities like Nalanda and Taxshila were known for their excellence, enrolling a large number of students, including many from abroad. As late as the eighteenth century, long after the advent of the British, native society was highly evolved with its own indigenous system of education (Dharampal, 1983). Over a period of time, the policies adopted by the colonial masters provided a death blow to the indigenous system. Making an analysis of this situation, Acharya (1978) has pointed out:

It is interesting that the indigenous system did not die a natural death. In fact, it was extinguished by the British rulers through their policy of a complete system of education. They introduced a primary school system leading to higher education on the British model, which was completely different from the *Pathshala* system. A *laissez-faire* policy in regard to education was dangerous for the Imperialist power. The so-called 'complete system of education' ultimately engulfed and emasculated the indigenous system.

Colonial influences had a detrimental effect in shaping the economic and education systems of many parts of what is still called the 'Third World'. A good number of sources (Carnoy, 1974; Altbach & Kelly, 1978; Watson, 1982; Kumar, 1991) have documented very well the linkages that exist within education systems between the colonial masters of the past and the Third World countries of the present. The overwhelming perception of the colonial masters was that what was usually good for themselves was good for their colonies. In their scheme of things, the native and indigenous cultures had no place. Watson (1994) has captured this feeling rather beautifully when he observed that 'what worked in Manchester could be transferred to Malaysia and the curriculum in vogue in Newcastle would be equally appropriate in Nigeria'. In fact, this colonial arrogance found its best expression in Macaulay's famous Minute of 1835 to the directors of the East India Company in which he condemned the indigenous cultures and languages as 'rude and barbarous'. In fact, Macaulay's own approach and inclinations echoed those of James Stuart Mill's when he observed:

I have no knowledge of either Sanskrit or Arabic. I am quite ready to take the oriental learning at the valuation of the orientalist themselves. I have never found one among them who could deny that a single shelf of a good European library was worth the whole native literature of India and Arabia.

The attitude of the contemporary colonial rulers in French West Africa in the early part of this century was no different (Moumouni, 1968). A major outcome of such policies by the colonial powers was the total destruction of the indigenous education patterns, many of which were not only intimately linked to the cultural norms, but with the very philosophy of that country.

Paradoxically while the colonizers organized the education system of the colonized, after independence these systems not only remained, but have been expanded. In fact the colonial legacy even now continues to dominate educational policy. The question is: To what extent have educational policy-makers in India been able to shake off the colonial past? (Shukla & Kaul, 1998).

The impact of the industrialized powers, as Altbach (1977) pertinently pointed out, extends throughout the intellectual life of Third World nations. The organization of education systems, from kindergarten to research institute, reflects Western models. In many Third World nations, especially those that were under colonial domination, the language of education and of intellectual discourse is that of the colonial power and change to indigenous languages has been slow and

awkward. The administrative structures of schools and universities reflect Western traditions. Indigenous patterns of education have remained undeveloped in all Third World nations.

Over a period of time, the colonial outlook, attitudes and philosophy seem to have seeped into the psyche of the colonized, creating an educational dependence on Western intellectual models. Citing a concrete example of this mind-set, Nandy (1995) points out that such is the colonial legacy that a South Asian medical graduate from a Western university, having little experience in treating the kinds of patients he sees in his home country, is more respected in South Asia than a doctor trained in South Asia. The grip of 'white mythologies' on the minds of its victims in the Third World is so strong that phrases such as 'oriental despotism', the 'unchanging village' and a 'continent without a history' in reference to Black Africa are encountered among large sections of its intelligentsia (Sham Lal, 1991).

The long years of colonial rule seem to have influenced the colonized so much that they are showing signs of suffering from the phenomenon of 'pseudo-speciation', typical of any people who have long been kept under alien rule. Erikson (1970), explaining this phenomenon in his monumental work, *Gandhi's truth*, sums it up thus:

The most frightening aspect of pseudo-speciation is the fact that a 'species' which has come under the dominance of another is apt to incorporate the derisive opinion of the dominant group into its own self-estimation; that is, it permits itself to be infantilized, storing up within and against itself a rage which it dares not vent against the oppressor and, indeed, often dares not feel. This has become a curse from generation to generation.

The challenge for developing countries with a long colonial past is to escape from the shackles of such a curse and look for solutions to problems rooted in their own social-cultural realities. Unfortunately, the situation found within the Indian educational issues in general, and teacher education in particular, is that it continues to be strongly influenced by the colonial past. Our dependence on colonial prescriptions is so pervasive that 'we rewrite the contract of our dependence every morning in our oppressive schools' (Kumar, 1992).

Indigenizing teacher education: an area of limited concern

An overall survey of various social sciences in developing countries has shown that some very serious attempts have been made to question the continuance of Western paradigms and practices. Such subjects as sociology and anthropology (Atal, 1981; Alatas, 1972; Dube, 1979; Espiritu, 1968; Bennagen, 1977), economics (Haq, 1976; Samy, 1978), political science (Bakshi, 1993) and psychology (Sinha, 1994; Misra & Gergen, 1993; Kim & Berry, 1993) have witnessed changes reflecting concern for indigenouslyness. Some areas of educational research and teacher education

have remained immune to such influences. The reasons for this, as I have pointed out elsewhere (Raina, 1995, 1997), are that:

In a world of blinding, accelerating change, Indian teacher education and teacher educators have shown tremendous resistance to change. Unfortunately, Indian teacher educators are in the un-Socratic position of not even knowing their own ignorance. For too long they have been happy to play along with the existing traditions for no other reason than that they are there.

It is inconceivable that the teacher educators, who are largely conservative and tradition-bound (Raina, 1997), would question the age-old and mainly out-moded syllabi and pedagogies based mainly on the colonial past.

Interestingly, developing an indigenous teacher-education system constitutes one of the world-wide issues in teacher education (Leavitt, 1991). It is in this context that Leavitt has queried to what extent countries, especially those with colonial histories, can develop their own educational policies, practices and institutions, while modifying or eliminating unwanted foreign influences. The countries which shared such a concern were the Arab Gulf States, Brazil, China, Egypt, Malawi, Malaysia and Nigeria. One of the critical concerns of these countries is foreign technical assistance without local participation. Perhaps more important, however, is the unrealistic training that doctoral students in education from developing countries receive in countries such as the United States, Canada and the United Kingdom. Although there may be notable exceptions, most doctoral programmes do not require foreign students to conduct studies directly related to the research needs of their home countries.

Voices have also been raised to make a case for indigenization of teacher education and its processes in developing countries (Dove, 1985; Rust & Dalin, 1990). For instance, making reference to the teacher-education curriculum, Dove (1985) pointed out that many curricula have expanded through historical accretion. Some topics persist because they are hallowed by tradition, even though their usefulness may have waned. Similarly, educational and psychological theories based essentially on research carried out in foreign cultures continue to be retained.

Teacher education in India: the continued tryst with a colonial legacy

Historically, teacher-training systems in the colonies were similar to those in the United Kingdom, both in structure and curriculum (Dove, 1985). The present teacher-training patterns in India are based on the system of training introduced by the British missionaries in the late nineteenth century. In the eighteenth and nineteenth centuries, training focused on the orientation of teachers to the subject matter of 'Western science and literature', rather than pedagogy (Majumdar, 1963). The two general features of the colonial legacy which continue to persist even now are: (a) the isolation of teacher training from academic and professional institutions; and

(b) teacher training considered as inferior to professional institutions, such as schools of law, medicine and business administration. In addition, teacher training still tends to be conducted in monotechnic institutions where intending teachers have few opportunities to gain wider experience and to break the school-college-school circuit (Dove, 1985).

Imported arthritic pedagogies: the dominant paradigm

The colonial imprint is also dominant on theory, practice and research. More than sixty years ago one of the doyens of Indian teacher education, K.G. Saiyidan (1934), observed:

The present rather meagre and formal curriculum is, like the curriculum of all other institutions, an importation from the west and has not been formulated with reference to the special needs and conditions of the Indian people and the Indian teachers. It attempts to give the students some idea of educational history and development in the west, it is pre-occupied with meticulous details and analysis of methods and school management. But it is not related to the important issues and problems of national life and does not give teachers a sympathetic understanding and insight into the elements of national culture (p. 266).

What Saiyidan observed largely continues to be the case in India even today. Batra (1995), making a critical analysis of teacher-training programmes in the country, agrees that we are currently training teachers based on a model that has changed little since the 1950s.

With the passage of time, teacher-training programmes have undergone some cosmetic changes, yet the colonial influences have persisted. Even though much of the material imported from metropolitan countries has been purged, much still remains unquestioned. For instance, outdated psychological theories based on research from foreign cultures continue to be an integral part of our teacher-training curricula. While the Pavloves, Thorndikes, Skinners, Gagnés and Tylers may have been forgotten in the countries of their origin, we in the developing world continue to venerate them. Topics such as 'conditioning', 'trial and error', 'clinical and operant' continue to be included in the educational psychology courses at the four-year B.Ed. and M.Ed. programmes in elementary education in prestigious institutes of education. The lists for suggested reading still prominently refer to books like Gagné's, *The conditions of learning* (1965).

Indian student-teachers are familiar with Western theories and psychologists, with most Indian textbooks of educational psychology (Chauhan, 1983; Mohan, 1993) still highlighting 'salivating dogs' and 'caged pigeons' in support of theories of 'classical' and 'operant' conditioning. Making a critical analysis of educational psychology curricula in teacher-preparation programmes in India, Panda (1997) pointed out their irrelevance, incoherence and random articulation of content areas.

Textbooks of pedagogy developed in India are, by and large, unremarkable, dealing with age-old facts.

Internationally, cognition is being perceived as an integral part of the learners' physical, social and cultural contexts. This concept has come to be known as 'situated cognition' (Derry, 1992). Is it fair to subjugate the minds of fledgling teachers with obsolete laws about learning? Aren't there any conceptions of learning and pedagogy which would highlight the underlying socio-cultural factors that affect the ways learners learn in different cultures? It may be pointed out that one of the important agendas of indigenization is to take a critical look at 'universally' accepted paradigms and their applicability in developing countries. Mention may be made here of some sporadic attempts, such as those by Gulati (1996) and Raina & Srivastava (forthcoming), to look again at the educational psychology curriculum from perspectives such as these.

While in recent years many developing countries have reformed initial teacher training curricula, in India such reforms have only been implemented in some isolated teacher preparation institutions. Much remains to be done outside the mainstream of innovation. Is it not a fact that in the majority of the teacher-preparation institutions in this country both at the elementary and secondary level the ancient 'Herbartian' steps of lesson-planning continue to be followed? 'The gist of Herbart's theory of teaching', as Kumar (1991) also points out, 'has proved to be an unshakable cornerstone of "practice teaching" in Indian training institutions. It has survived all kinds of lip-service which have been paid to modernism in psychology and the theories of learning'.

Teacher-training programmes in India have remained procrustean, offering the same 'menu' to all without the slightest regard for varying cultural and physical settings. They remained unresponsive to vast cultural, linguistic, regional and geographical diversity. Making an observation about the out-of-tune primary teacher certificate (PTC) courses being offered in the Gujarat state, Dyer (1996) reported that most teachers she had interviewed felt that the training was not suitable for the situations in which they worked, since training colleges have a strong urban bias: this despite the fact that five-sixths of teaching posts were in rural areas. Reportedly, trainers were not in touch with the realities of small schools with single rooms and no facilities, and hence did not offer teaching strategies for them. In the Gujarat state's 1991 revised teacher-training syllabus, multiple-class teaching is still treated as an 'additional specialization', defined as an 'area of interest', although a 1986 national survey had established that two-thirds of all Indian primary schools were single- or two-teacher schools, where multi-class teaching is inevitable. It is ironic indeed that we learn from the World Bank report (1997) that 'in India teachers need—but do not receive—preparation for teaching in the situation that two-thirds of them have to face: multi-age, multilingual, multi-grade classrooms, with many first-generation learners who attend school irregularly.'

One can add countless examples from the field of Indian teacher education. By way of example, while most of the syllabi of pre-service teacher-preparation courses make a point of referring to Western innovative curricular projects, such as

'PSSC', or 'BSSC', 'Chem. Study' and 'Nuffield', no mention is made of a Kishore Bharti's Hoshangabad science teaching project in Madhya Pradesh, which ultimately took shape as 'Eklavya'. There is no reference to 'Nehru Science Exhibitions'. Is there something endemically wrong with our post-independence way of thinking that belittles the contribution of native ideas and scholarship? In this context it may be rewarding to cite the experience of U.R. Anantha-Murthy (1992), former President of the Indian Sahitya Academy, about the teaching of Indian literature.

As a teacher of literature for more than three decades and also as a writer, I want to make an observation. When a new student joins the M.A. course in literature anywhere in India, if he is asked whether he has heard the name of Aristotle, he is likely to say 'yes'. In some bookshop or the other, he will have seen at least a book by Aristotle. But if you ask him whether he has heard of Anandavardhana, it is likely that he will say 'no'. He will not have seen a book of Anandavardhana. If today a hundred copies of a play of Shakespeare are sold, I am sure that ninety-nine of them are bought because it is a textbook in some place or the other. Aristotle and Shakespeare are preserved because there is an unseen cultural policy working in Europe which we have also adopted for historical reasons in our country. I would also add, for truly cultural reasons as well. Yet Kalidasa or Anandavardhana or Pampa or Basava or Kabir ought also to be part of such a cultural awareness. I would also desire that excellence achieved in any field in any part of India must become common heritage.²

While our student-teachers and teacher educators are conversant with the ideas of Dewey, Rousseau, Spencer or lately Piaget, they may not have heard about the contributions of Aurobindo, Tagore or Krishnamurthi to Indian education. It is again, perhaps, for these cultural reasons that we have failed to celebrate the ideas of a native thinker, such as Gijubhai Badheka (1990). Although he wrote his book *Divaswapana* in 1931, narrating an allegorical tale of an idealistic teacher determined to use new systems of teaching to revitalize learning, the book still retains a freshness that makes reading it a pleasure today. A recent review of this book by Sriram (1998) points out rather succinctly:

Piaget would have been delighted to read the book as it provides first-hand evidence on the importance of a committed teacher who instils in his students the desire to learn by doing. It reaffirms that the teacher needs to answer questions, be motivated, have a firm set of convictions to adhere to and climb down from the ivory tower in which he is ensconced. A 'must read' for all educationists and those interested in children.

The newly introduced programme of elementary education in the four Regional Institutes of Education makes no reference to Badheka or to his *Divaswapana*, nor does it form part of the syllabi of pre-service teacher-preparation courses. The experience of the British researcher Shotton (1997) may be very instructive for us:

My initial entry point to Indian education was via Tagore, Sri Aurobindo and Krishnamurthi, and it has always been a mystery to me how three of the most innovative educational thinkers

of the world have vanished into virtual obscurity in India, but, quite possibly it is their absence from serious educational discussion in India that leads many to conclude that there is not a 'progressive' discourse about education in India.

Following Adair, Puhan and Vohra (1993) who have made an analysis of Indian psychological research from the point of view of indigenization, indigenous teacher education would be one that is 'culturally appropriate'. It would gradually blend imported discipline with new concepts and approaches generated within that culture.

Towards an indigenous model of teacher education: re-examining the profile of an Indian teacher

We should take a critical look into the profile of an Indian teacher in its socio-cultural and historical perspective. An indigenous view of teacher education may at times amount to looking into the expectations that the society had historically placed on our teachers. If one looks into an important source, such as *Vishnu Sahasranama*, a teacher is considered to be a knowledgeable person—not a mere purveyor of information, but in the sense that he must be a 'realized' soul, a *siddhartha*. The Delors Commission (1996) observed: 'Teachers must adapt their relationship with learners, switching roles from "soloist" to "accompanist", and shifting the emphasis from dispensing information to helping learners seek, organize and manage knowledge, guiding them rather than moulding them'. This is precisely the kind of teacher/pupil relationship that has been highlighted by an Indologist, Misra³ (1998), looking at teaching from the Indian perspective. Paradoxical as it may sound, we may readily appreciate the observations of the Delors Commission, yet show resistance in accepting what our own scriptures have to say. This could possibly be attributed to the colonial mind-set. Indigenization of teacher education would mean looking at issues from wider socio-cultural perspectives.

We also need to look at the status of the teacher in the present-day Indian society. It is now an established fact the low status of Indian school-teachers results from an inherited poor socio-economic background. Prior to the advent of the British, the teacher was not a paid servant of the government, but was a charge on the local population. According low status to the Indian teacher was the contribution of a hidden agenda of the colonial State (Kumar, 1991).⁴ Even though fifty years have passed since we attained freedom, the teacher is stuck with the same low status. All the rhetoric about reforming teacher education would be pointless unless the status of teachers is substantially improved. Teaching will continue to be the last choice as a profession unless serious attempts are made to better the status of teachers and attract talent to the profession. In the ultimate analysis, it is the status of teachers that would in turn determine our teacher-preparation programmes.

Indigenization of teacher education would also require an overall reorientation of its curriculum, pedagogy and research issues. Cultural contexts play an impor-

tant role in the total enterprise of the process of indigenization. Instead of following Western pedagogical practices, a pedagogy rooted in a particular culture is required.

Developing a culture-sensitive pedagogy

According to traditional Indian wisdom, man's reality is inextricably interwoven with his socio-cultural milieu. To understand and judge his conduct, it was considered essential to take into account the spatial and temporal contexts (Sinha, 1989). Largely in tune with this rationale, an important change that is visible internationally is to perceive the act of teaching as a culture or as a set of sub-cultures. Pedagogy is perceived not merely as a science of instruction but as a culture or set of cultures which reflect different contexts and different teaching behaviours—inside and outside classrooms (Thomas, 1995). Interestingly, an exclusive chapter on 'the culture of teaching' (Feiman-Nemser & Floden, 1986) forms part of the third edition of the American Educational Research Association's *Handbook of research on teaching* (Wittrock, 1986).

Interest in this area has intensified internationally. (Au & Jordan, 1981; Mohatt & Erikson, 1981; Jordan, 1985; Vogt, Jordan & Tharp, 1987). A considerable amount of research has been generated on teaching as a culture or as a set of sub-cultures. Au & Jordan (1981) termed the pedagogy followed by teachers in a Hawaiian school, incorporating different aspects of students' cultural backgrounds into their reading instruction, as 'culturally appropriate'. By permitting students to use talk-story, a language interaction style common among native Hawaiian children, teachers were able to help students achieve higher than predicted levels on standardized reading tests. It is in this context that reference may also be made to the work of Ladson-Billings (1995), who has suggested new theoretical perspectives for successfully educating teachers to work with African-American students.

According to Thomas (1995), who has carried out substantial work in many developing countries, cultural factors play an important role in developing meaningful and effective pedagogy. This would mean incorporating educational sciences into the preparation of educational professionals as culturally relevant and situated knowledge, rather than as decontextualized disciplines separated from the cultures in which they are embedded. This, however, as Gordon (1995) rightly points out, would not mean that psychology or sociology for black people would be different from the psychology or sociology for white people. But what is really required is that the study of these disciplines must be approached with sensitivity to diverse cultural contexts. To make student-teachers culturally sensitive, so as to appreciate the problems of culturally diverse pupils in the classroom, they should be taught classroom behaviour that supports the achievement of cultural diversity in the classroom. They have to be advised and guided to reflect on their perceptions; and try to bring value shifts through relevant pedagogical shifts (Haberman, 1991).

Unfortunately, in many developing countries, the cultural heritage has suffered

a great deal of neglect in the recent past, as a result of a policy to modernize education systems according to Western models. Governments had hoped that more up-to-date methods of teaching and learning would give them a competitive edge and eventually lead to greater economic success and political control (Thomas, 1995). However, there is an increasing realization now that family and community structures, traditional knowledge and ways of communication and discourse—values and beliefs that continue to endure irrespective of change—have a crucial role in the future of these societies. Factors such as these have a particularly important contribution to make to schooling, especially through the form and style of teaching. It may be relevant to point out that in a country like India, which is multicultural, multilingual, with a number of religions and varieties of population (tribal and non-tribal), there can be no single standard pedagogy. Effective pedagogy must be responsive to such socio-cultural pluralities.

Most of the time the school, as well as the teacher-education curriculum and its transaction, ignores the very context in which it is operating. Very frequently, teachers—because of the way they were educated—use a pedagogy which ignores the context and the rich cultural experience in which they are located. During a field visit to one of the teacher-training institutions in rural Rajasthan, we made inquiries about any innovative practice that they were trying out. A teacher-educator proudly informed me that they had recently introduced micro-teaching and teaching in simulated conditions. There may be nothing wrong with this. Yet, I later learned that the student-teachers were not being equipped with a pedagogy which would help them deal with single teacher, multi-grade, large-size classrooms. The local schools precisely reflected such conditions. Being essentially a Western model, the teacher-educator thought he had really impressed me with the blind imitation of micro-teaching. Indeed, it brought a pseudo-scientificism and an aura of respectability to a moribund teacher-preparation institution.

To further highlight the issue of neglect of cultural heritage in the classroom, Thomas' experiences of the Malaysian culture may be instructive for developing culture-sensitive pedagogies. In the ethnically diverse school population of Malaysia, Thomas (1955) found that the curriculum planners did not draw upon the rich aesthetic and artistic cultural context of the three main ethnic groups. In fact, some of the South-East Asian communities, like the Malay, Indian and Chinese, have a rich endowment in art, story-telling, dance and music. While this multicultural heritage is given every opportunity to flourish outside the school, in evening clubs and during the many public festivals held throughout the year, the curriculum planners tended to downplay it. It is perhaps for this reason that no one seems to take any interest in these vital areas of affective nature in our schools, including the teacher-preparation institutions.

There is a need to celebrate our cultural heritages and make them part of active pedagogy. A pedagogy rooted in its own culture would be more acceptable than imported models. While the West seems to be making good use of 'reflection' and 'reflective practices' (Schon, 1983), even at times incorporating non-Western notions of reflection—particularly the Zen Buddhist tradition of 'mindfulness'—in its teacher-

preparation programmes (Tremmel, 1993), we in the developing world are still bogged down by behaviouristic, competency-based school curriculum and competency-based teacher-education programmes, long discarded by the West. Making a critical analysis of dependency on competency-based model, and its associated politics, Kumar (1996) perceptively observes:

Without an inspiring idea or vision of society, the education system stumbles from one gimmick to the next. The latest is 'minimum levels of learning', fashioned after behavioural objectives which were first identified and then discarded in America in the seventies. It is believed that these objectives will make the system more accountable, especially to the donors of aid and loan who have been active in the wake of structural adjustment programme.

It may be pointed out that one of the important components of reflective teacher education is to be sensitive to the context in which one is placed. According to Calderhead & Gates (1993), one of the aims of a teacher-education programme based on notions of reflective practice is to foster the teachers' appreciation of the social and political contexts in which they work. This helps teachers to recognize that teaching is socially and politically situated and that the teacher's task involves an appreciation and analysis of that context.

One of the questions that needs to be answered is whether the theoretical formulations underlying our curriculum development process, transactional strategies and other activities are based on any kind of indigenous research or are simply based on research that has taken place in Western countries.

Teacher-education research and innovations: Indian realities, Western responses

Like its theory and practice, Indian educational research—as well as teacher-education research—has remained by and large responsive to western models and paradigms. In addition to the historical reasons relating to the colonial past, Choksi & Dyer's (1996) experience suggests that the Indian establishment is generally more attuned to inputs from external or national level sources, rather than 'indigenous' research (Shaeffer, 1991). For reasons of prestige and status the 'Northerners' have better access to policy-makers in the developing countries. In the context of globalization of the social sciences, Bhambri (1998) has significantly observed that:

Western countries try to determine the intellectual agenda of the Third World by identifying and co-opting neo-colonial social scientists and generous financial grants are given by the western agencies to institutions and individuals for selling the academic agenda of the west. All powerful ideas have material foundations, and in the case of Third World academic social scientists, the material foundations are provided by the western financial agencies.

Perhaps for reasons such as these, teacher education in India has been strongly influenced by Ned Flender, Dwight Allen and Bruce Joyce. Thus, it remains essen-

tially within the periphery of the behaviouristic paradigm. It may be reiterated that Allen and Joyce may at times have a hidden agenda in seeing their ideas and research spread, particularly in the developing world. Following Frankel (1965) and Combs (1965), it may be added that education and cultural affairs often constitute the 'fourth dimension' of the foreign policy of the countries within the developed world. Lindsay (1993), reviewing *Teachers and teaching in the developing world* (Rust & Dalin, 1990), has pointed out that the United States and other countries do not always engage in assistance to teaching projects solely out of humanistic altruism. If that is the case, then is it not important for us in the developing countries to be careful about the motivations of the donors in seeing their plans through?

For these reasons, traditions in developing countries have been strongly influenced by the fashions pursued in developed countries. Classroom research in developing countries has remained largely dominated by the production-function metaphor originally rooted in studies of North American classrooms (Gage & Needels, 1989). Avalos (1985), who has done extensive research and survey work in developing countries, has observed that if one looks at the research on teaching carried out in developing countries over the past twenty years, there emerges a picture of less indigenous theoretical developments based on research results. In fact, it seems more accurate to say that the available research has largely followed the orientation of earlier North American research. Thus, there have been many survey-questionnaire studies on what teachers do and their background. The rest of research has adopted a progressive focus (indirect teaching, discovery learning, and teaching for meaning rather than memory and mechanical recitation procedures), and on behavioural approaches and teaching, as expressed in the 'instructional objectives' approach and in programmed learning. This gets further validated by the kinds of teacher education that have been reported in the five surveys of educational research in India (Buch, 1974, 1979, 1987, 1991; NCERT, 1997).

A blind application of research taking place in the affluent Western countries may not always be warranted, as the socio-culture realities in the two settings are usually entirely different. For instance, speaking from the Pakistani context, Rugh & Farooqi (1991) have pointed out that it is not always useful to generalize research in rich countries and apply it to poor countries. While the education systems in both settings are formally similar—each has teachers, classrooms, textbooks and school hours—the context and dynamic of the teaching/learning process may differ in fundamental ways. What may be a problem in one setting (for example, the fact that many teachers lack knowledge of the subject they teach, even in primary grades) may be unknown in countries where all teachers have a university degree. In the industrialized country, the problem is understanding how to teach the subject, rather than basic knowledge of the subject.

A situation of this kind may be typical of countries like Bangladesh, India, Nepal, Pakistan and Sri Lanka. Research conducted on Indian primary teachers (Bashir, 1994; World Bank, 1997) found them to have poor 'content' knowledge. One of the recent studies Gupta (1996) carried out as a part of a large-scale study

under the District Primary Education Programme, showed that the 'knowledge' level of his sample primary school teachers on a test of reading and mathematics was much lower than expected. In fact, the teachers did not themselves have those minimum levels of learning competencies which they were striving to develop among their students. If these are the conditions affecting our teachers, then our teacher-education research must respond rather than following Western fashions.

Instead of evolving our own priorities and agendas for research, it is somewhat sad to point out that Indian teacher-education researchers have been mostly pre-occupied by ideas such as 'programmed learning', 'micro-teaching' and (of late) by 'models of teaching', evidently following current trends. Unfortunately, we have not even hesitated to label them as our 'innovations' in teacher education (Joshi & Thomas, 1991).

A recent review of Indian teacher-education research (Govinda & Buch, 1990) reported that there have been nearly 150 studies on teacher education during the past decade. Of these, about one-third have teaching as their main focus. Most dealt with micro-teaching and teaching skills within the broad framework of behavioural modification technology. It is instructive to note the conclusions that Govinda and Buch arrived at after making a thorough analysis of such research:

It will not be out of place to make two broad observations about the nature of the studies reviewed here. The fact that almost all the studies on teaching view teaching as consisting of trainable skills shows that Indian researchers have tended to consider teaching only from the behaviouristic angle. Not a single research study has attempted to analyze classroom teaching from cognitive theoretical perspective, nor with an ethnographic approach. This narrow theoretical position adopted by researchers has painted a fragmented picture of teaching as only as an ensemble of otherwise independent skills. This is quite in contrast to the trend of studies being carried out in other parts of the world.

It is amply clear that the type of research conducted has not answered the crucial problems facing Indian teacher education. The priorities have remained biased in favour of a particular approach (behaviourism), often using only positivistic-scientific methodology. One question that ought to bother us is why we have been traditionally susceptible to only behaviouristic incursions and not to other approaches? Isn't it somewhat intriguing that we have not been influenced by humanistic influences and approaches, like that of Abraham Maslow (1968), Carl Rogers (1961) or Arthur Combs (1965), whose messages, perhaps, would be somewhat nearer to the Indian way of thinking?

It is a sad fact that much of the research into learning and teaching still originates in the developed countries. This research is then published in prestigious journals, which set international fashions. The need of the hour is to strengthen indigenous, culturally appropriate research in developing countries. The locally produced journals need courageous editors who are willing to accept material which may challenge the accepted findings and ethnocentric biases of the industrialized countries

(Mazrui, 1978; Altbach, 1978; Shaeffer & Nkinyangi, 1983). However, it is also a hard fact that most of the time the quality of educational research published in journals from developing countries is weaker than the contributions made from these countries appearing in the journals of the developed world. In this context, it may be relevant—though paradoxical—to point out that concerns for indigenusness and indigenusness research were first published (Atal, 1981; Misra & Gergen, 1993) in the developed world.

Identifying priorities in Indian teacher-education research

An analysis of teacher-education research reported in the five surveys of Indian educational research (Buch, 1974, 1979, 1987, 1991; NCERT, 1997) shows that it has been mostly of an academic nature, pursued essentially to obtain a research degree. Such research, invariably conducted within the quantitative paradigm (Choksi & Dyer, 1996), has not been of great significance and relevance. Most important studies about drop-outs, science teaching, improved curricula and material production have been conducted at places other than teacher-training institutions (Pattanayak, 1986). Leaving aside sophisticated research, even studies of age and gender-wise control of vocabulary and other language elements have been conspicuous by their absence.

An important bane in the promotion of a research culture in India in general, and educational research in particular, has been the weak demand from the policy-makers, and political and access restrictions that determine the choice of subject matter. This has resulted in lack of initiative from the universities to respond to the changing national and international scenario, in terms of both the content and type of research conducted (Choksi & Dyer, 1996). It is no wonder that, in spite of perennial criticism of the teacher-education system, there does not seem to be any visible attempt to understand the system of teacher education in the country. Joshi (1997), making an analysis of Indian research in teacher education, points out that 'most decisions, crucial to the developments in teacher education, are often made by a handful of decision-makers and seldom a need is felt for follow-up research studies, not to say of research and development activities'.

The situation demands that teacher-education research must be geared to policy issues. Policy research will have to be based upon pragmatic understanding of the field-level situations, the existing institutional support and programme structures, strengthening of recent interventions and the optimum utilization of available resources in manpower and material. How does the teacher-education system, as Rajput (1995) queries, respond to the national priorities, like universalization of elementary education, initiatives in non-formal education and adult education, which can no longer be isolated from the so-called formal system.

Priority must be given to meaningful research in traditionally ignored areas, such as primary-teacher education and in-service education of teachers (Govinda & Buch, 1990). Care must be taken that not only traditionally venerated scientific/pos-

itivistic approaches are favoured, but qualitative/interpretative approaches—such as ethnography, participant observations, case-studies, life-history and other techniques—are also encouraged.

Summing up

Teacher-education programmes have not been in tune with the real needs of classroom teachers and have not contributed to their professionalism. It is a sad fact that, at the moment, much training is a ritual, necessary to obtain the teaching certificate—but worth very little more than that. Whilst it may satisfy political and professional sensitivities to claim that a high proportion of the teaching force is certificated, in the long run this is an expensive effort unless real gain in teacher effectiveness is achieved (Dove, 1985).

Indigenization of teacher education envisages a paradigmatic shift, taking an inner view of the situation, giving importance to socio-cultural realities and making use of culture-sensitive pedagogies. It should discourage modelling one's programmes and researches on 'borrowed consciousness', and rather rooting them in the local context.

Notes

1. The author wishes to acknowledge the comments of Ram Narain Mehrotra and Ashok Srivastava on earlier drafts of this paper, and the help of Rajendra Dixit in translating certain quotations from Hindi.
2. Anandavardhan, Kalidas and Kabir were distinguished Indian literary figures who made a substantial contribution to the two major native languages: Sanskrit and Hindi. Similarly Pampa and Basava are well known for their contribution to the Kannada literature—a language of southern India.
3. 'The relationship between a teacher and a pupil is that of co-travellers on a journey. Both are on one and the same expedition, walking hand in hand. It is not a relationship that suggests our being separate. No. Not that! Let's move together; and if we have to move together, we must get something from you. We have to get from you the radiation, the refraction and the reflection of whatever we are giving you' (Misra, 1998, p. 31).
4. 'By keeping the school teacher's salary and status low, the colonial state ensured that its perception of valid knowledge would be faithfully transmitted to Indian children without the distortions that an intellectually alive teaching profession might force upon the system' (Kumar, 1991, p. 15).

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**TECHNICAL AND
VOCATIONAL
EDUCATION**

TECHNICAL AND VOCATIONAL EDUCATION FOR THE TWENTY-FIRST CENTURY

Colin N. Power

The era of rapid scientific and technological progress in which we live has brought about a communications revolution that is pervading every region of the world and creating a global information society. Indeed, the information and communication technologies are dramatically changing the way people in many parts of the world live, learn, work or think about work. Advances in other areas of science and technology indicate that food production and health care may be revolutionized in the next two to three decades. Meanwhile there is a growing awareness that the present pattern of socio-economic development cannot be sustained indefinitely because of its deleterious impact on the environment.

Coincidentally, the political changes following the end of the Cold War have led to liberalized trade and movement of people between countries. This trend towards globalization has, in combination with technological developments, affected the world population in different and unequal ways. It has resulted in rapid economic benefits for some countries while causing acute social problems for others.

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While globalization has increased economic growth in some countries, it has also demanded heightened competitiveness. Production systems based on new technologies that enable greater productivity and flexibility, and workers with updated skills and more independent initiative, are required if industries are to survive in this climate. Thus, with the demand for greater productivity, new technologies are radiating into almost every industrial sector, including the traditional labour-intensive industries. Rapid technological change makes skills obsolete very quickly and requires higher levels of initiative and more frequent retraining. This changing technological scenario may also cause workers to change jobs several times during their working lives.

The basic challenge of the globalized economy is therefore the requirement to adjust and compete in a rapidly changing environment. And central to the effort to compete in the twenty-first century is the creation of a productive, flexible workforce. Every country will be obliged to enable its citizens to acquire the skills necessary for survival and for improving their quality of life, because the demands of the workplace are likely to leave people without skills unemployed and unemployable. An important feature of all educational programmes and activities, therefore, should be the provision of education for employment, including self-employment and entrepreneurship, and education for life skills, including 'key competencies' and 'generic skills' to meet the technical and social requirements of participation in productive roles in an ever-changing society.

Technical and vocational education (TVE) is the component of education most directly concerned with the acquisition of the knowledge and skills required by all citizens and workers in most manufacturing and service industries. Although there is debate about whether TVE creates jobs, it is undisputed that it can provide people with the skills required to give them better opportunities for employment and re-employment and to function in modern societies. Thus, we would want to insist that all citizens have the right to basic TVE as part of the obligation of all societies to meet their basic learning needs, and that such an education should lead to increased status and increased numbers of young people acquiring technical and vocational qualifications. The new global economic environment demands a reorientation in TVE to render it more responsive to the needs of students and workers. It must provide training for employment as well as prepare a new generation for sustainable development and work in a lifelong learning process. The TVE of the twenty-first century must be geared to the demands of the 'knowledge society', and not to those of the Industrial Revolution.

Some countries have begun restructuring their TVE systems to produce what they expect to be the TVE graduate of the twenty-first century, and in such cases the status of TVE has increased significantly. Of the TVE models currently available, those that emphasize a sound initial education are thought to provide a good basis for future training and retraining. As UNESCO stressed following the World Conference on Education for All, TVE must be seen as a lifelong process and an integral part of basic education for all. This education is expected to help students achieve competencies based on fundamental skills such as mathematics, foreign lan-

guages and computer literacy; thinking skills such as creativity, problem-solving and decision-making; and personal skills such as sociability, self-esteem, self-reliance, self-management and integrity. Additionally, the integration of TVE programmes into general education is considered a sound method of preparing learners for the demands of the workplace and of life in the future. The acquisition of this array of skills is expected to produce creative and retrainable workers with the flexibility to adjust or adapt easily to a changing work environment. The inculcation of entrepreneurial skills that would provide workers with the ability to generate employment opportunities through the creation of new businesses is also considered an essential aspect of TVE. These skills and competencies are essential components of the second pillar of education for the future stressed by the UNESCO International Commission on Education for the Twenty-first Century,¹ namely 'learning to do'.

Since most TVE graduates will expect to receive further training either at their place of work or at a public or private institution, programme administration and curricula must allow flexible entry and exit opportunities throughout life. TVE graduates wishing to acquire new skills through retraining need informal lifelong learning opportunities. Some proposals to facilitate this include designing courses in modular format, introducing competency-based assessment, self-paced learning to meet individual requirements, and giving recognition to the experience, knowledge and skills possessed by trainees. There is now solid evidence² that countries with diversified and well-qualified workforces (e.g. workers with technical qualifications as well as those with higher-education qualifications) are much more productive than those with only a narrow range of academic qualifications in the workforce.

In a rapidly evolving work environment, educational and vocational guidance and counselling are critical and must constitute an integral part of any TVE programme, as they contribute to enhancing the relevance and effectiveness of training. Counselling is necessary in order to understand and appreciate the talents of students, help them to explore career alternatives, develop educational and vocational training plans, relate effectively to others, and integrate successfully into society and the labour market.

The integration of TVE into general education needs to be accompanied by guidance that inculcates a positive attitude towards work. Guidance and counselling must define career development as a systematic process during which individuals develop their vocational awareness, employability and maturity. They must monitor the requirements of the labour market and help the gifted and the disadvantaged to develop career plans that suit them best. However, most teachers are not adequately trained to provide vocational guidance and counselling, and even when the service is available, it is confined to the school and does not cater to the needs of parents, and unemployed youths and adults.

The range of skills required of a TVE graduate of the twenty-first century implies that teaching is becoming a more complex process. Teachers are expected to be curriculum designers, student counsellors, coaches, advisers, tutors, education and resource managers, and vocational practitioners. In view of their multi-faceted role, improving the skills of teachers and trainers is considered fundamental to inno-

uating education and training processes in TVE. Initial training must prepare teachers for a continuous upgrading of their competencies throughout their career. In many countries, teaching staff are deficient in their theoretical or their practical skills. In such cases in-service training would help upgrade their knowledge and skills, and keep them abreast of rapidly developing technologies. A multi-dimensional approach utilizing modular and on-the-job training supplemented by retraining during vacations is considered effective. The traditional notion of pre-service and in-service training is being remodelled to make teacher education a seamless process during a teacher's career. Also, the entry requirements for a career in teaching TVE must be viewed more liberally; work experience may be recognized as a substitute for educational qualifications. Teachers recruited from industry would be more inclined to let the demands of the workplace influence curricula and to emphasize the importance of industrial internships.

The new information and communication technologies are revolutionizing education by removing distance from it and making knowledge more easily accessible to all. Technology-enhanced learning will play a crucial role in the development of a culture of lifelong learning, and has the capacity to empower learners by providing them with multiple pathways to meet their educational and training needs. There is a growing interest in technology-based learning (TBL) across the world. TBL may be defined as an array of hardware and software used in teaching and learning systems, telecommunication systems as well as the Internet. It has the potential both to enhance teaching and learning, and to become cost-effective by offering greater flexibility in time and location of delivery. Furthermore, it may facilitate institutional policy regarding access and equity. The advances in information technologies could be harnessed to deliver long-distance education to populations in island countries and remote, isolated areas. If TVE programmes are provided on the Internet, these populations could select the levels of specialization appropriate for their needs, and learn in their own time. They could also learn selected topics repeatedly at their own convenience. In addition, the Internet can and will be increasingly used as a co-operation tool for exchange and development of TVE policy and programmes. Thus UNESCO intends to significantly expand its UNEVOC networking and service role via its website.

While technology-enhanced education offers great promise, its widespread use is hampered by the high cost of hardware and software, the creation of technological 'haves' and 'have-nots', the lack of appropriate strategies for integrating technology across curricula, and deficiencies in teachers' knowledge. A special effort is thus required to narrow the widening information technology gap between the developed and the developing nations. We are therefore looking, following the Seoul International Congress on Technical and Vocational Education, to forging an alliance with the International Labour Organisation (ILO) and other bodies (e.g. the World Bank) in support of reform of TVE as part of the development programmes of 'have-nots'.

Innovating the education and training process in response to the new challenges and changing demands of the twenty-first century involves introducing train-

ing for employment in small enterprises, for self-employment and for entrepreneurship. Small businesses established by entrepreneurs are expected to generate the most jobs in the modern economy, and an increasingly vital role in economic development is foreseen for them. The education of entrepreneurs is therefore more and more important, particularly in view of some projections that indicate that 50% of the graduates of the current education and training programmes will be unlikely to secure employment. In developing countries and in countries in transition towards a market economy, self-employment appears to offer great potential for economic independence for most young people, since the largest labour market is 'informal'.

In view of the growing importance of self-employment in the new economy, TVE and its social partners need to work together to formulate policies for including entrepreneurship education as an integral part of all educational programmes aimed at achieving high employability for their graduates. Practical experience may be acquired through attachments in small and medium-size businesses.

Innovating the education and training process must involve reconsidering the current methods for assessing learners' achievements and accrediting work experience. Changes in skill requirements at the workplace call for a re-examination of traditional methods of assessing outcomes. Skills testing, certification and accreditation systems are necessary for signifying the skill standards and competencies achieved. Accreditation would indicate the productivity of skilled workers, and facilitate their professional mobility. Also, skill standards can act as benchmarks for curriculum development, performance assessment and occupational classification. In some countries national bodies have been established to determine both standards and accreditation. The recognition of work experience as a substitute for educational qualifications is an innovation that is gaining acceptance. It is thus clear that TVE must collaborate with its social partners to develop standardized assessment strategies that would facilitate the mobility and portability of competencies.

The industrial manufacturing trends witnessed in the late 1980s and through the 1990s clearly indicate that private sector involvement in the training of future workforces is an imperative. Governments, particularly in the developing countries, are unable either to respond sufficiently quickly to the rapidly changing skill requirements or to bear the cost of training personnel in state-of-the-art skills. It is thus in the interests of companies to develop multi-faceted articulation with local TVE establishments, including financial commitments to institutions and trainees. The benefits for industry from such articulation are numerous: the graduates of the training programmes would possess the skills most relevant to the company's manufacturing processes; they would be immediately operational; and they would be familiar with the prevailing corporate culture.

Besides preparing people for employment in the early years of the twenty-first century, TVE will be expected to function as an instrument of social cohesion. It must address the growing marginalization of young people and adults in the industrialized as well as the developing world. Of particular concern is the under-representation of women in TVE. Religious traditions, social structures, cultural practices and value systems may dictate an inferior status for women in many

sectors of society and restrict their opportunities for effective participation in socio-economic activities. However, the traditional perceptions of appropriate roles for women in the workforce are being challenged, and TVE will need to respond with learning programmes that are appropriate in terms of both delivery and content, and with teachers competent and sensitive in this area. For the promotion of equal access of girls and women to TVE courses, more effective forms of educational and vocational guidance must be provided, together with gender-neutral guidance and counselling materials that are carefully and attractively designed to include information on new areas and those traditionally dominated by men.

In a modern market economy, the delivery of TVE must be achieved by a multi-faceted system which is the joint responsibility of government, industry and the community. At present, the public sector is still the major provider of TVE in most countries, although a growing trend towards decentralization and co-operation with the private sector is evident. Governments are responsible for giving TVE a priority proportional to its strategic importance, and for developing and providing the necessary legislative framework.

The diversification of providers of TVE requires a major change in the perception of its role and links with adult and higher education. To create coherent partnerships where conflicts in practice are minimal, it is crucial that governments establish a co-ordinated national agenda for the development of TVE. A coherent legislative framework is required so that policy and strategic directions can be set and enacted. Just as it is necessary to secure the transparency of professional qualifications, so it is imperative that the regulatory framework ensures the rights and obligations of the major players in the training system, such as the citizens who are potential trainees, large-scale trainers, enterprises and employers. TVE should be viewed as an investment, and public institutions given more autonomy so that competition is increased and customers' demands for quality are met. With the diversification of providers, co-ordinating mechanisms need to be established to ensure effective organization for collective negotiation and social dialogue, to monitor the supply and demand of the labour market, and to maintain skill standards and information systems. Most importantly, the diversification of TVE and articulation with other levels and types of education providers necessitate also the diversification of funding resources, and greater understanding and respect for TVE, especially on the part of universities.

The successful achievement of an overall agenda for the development of TVE depends greatly on the financing of TVE, including cost-sharing and resource generation by TVE institutions. It is generally agreed that TVE is among the most expensive educational programmes, and funding practices vary considerably among countries. The different TVE funding sources can be grouped into the following five categories: national budgets, employers' contributions, learners' contributions, voluntary contributions and self-funding.

For their part, governments would be expected to provide a climate conducive to a mutually beneficial co-existence between industry and TVE. In return for private sector investment in TVE, governments could offer incentives in the form of

reduced taxes and tariffs and other benefits that would facilitate the operation of that sector's business. Also, governments may enter into formal agreements with transnational corporations operating in their countries in order to ensure significant reinvestment in the local communities.

Meeting the challenge

The ability of TVE to meet the challenges of globalization and technological development will depend greatly on clear vision, strong leadership and focused programmes of action. It is abundantly clear that firm and co-ordinated partnerships between all the stakeholders of TVE will be the key to the effectiveness of such an effort. Governments, intergovernmental organizations, especially those of the United Nations system, non-governmental organizations (NGOs), private sector partners and professional associations, and the community need to develop strategies whereby each stakeholder contributes in the area of its comparative advantage, and new strategic alliances are forged (e.g. a joint ILO-UNESCO programme for technical and vocational education and training).

International funding agencies have played a major role in financing TVE as well as in providing policy direction for developing countries. The development banks have made substantial but at times fluctuating investments in TVE in developing countries. Bilateral development co-operation agencies have also provided technical training and funding for TVE projects in developing countries. However, in many countries the models promoted by donor agencies have not always been appropriate for the local context. Recipients have often inherited projects with little or no technology transfer, and high recurrent costs; and this has necessitated continued dependence on the goodwill of the donor. When donor support has ended, projects have tended to wind down shortly afterwards, or to limp on with a lack of effectiveness and efficiency. Furthermore, unco-ordinated donor policies have at times resulted in competition and duplication of effort in the recipient countries.

Clearly, a new global long-term strategy and a global alliance in support of a reformed TVE are needed to address the socio-economic conundrums of the next century. Within such a global strategy, UNESCO is well placed to play an active role because of its comparative advantage in the field of education, its links with the ministries of education in its Member States, and its affiliations with education NGOs and teacher associations. It is our hope that a new pact and consensus will be achieved at the Second International Congress on Technical and Vocational Education providing the coherence and political force needed to enable a revitalized and future-oriented approach to TVE. This should become a key element in all development or poverty alleviation strategies to emerge forcefully in the policies and programmes of Member States, and international and regional organizations.

Notes

1. J. Delors et al., *Learning: the treasure within*, Paris, UNESCO, 1996. (Report of the International Commission on Education for the Twenty-first Century.)
2. B. Cullen, *Work skills and national competitiveness*, Brisbane, Australian National Training Authority, 1997.

VOCATIONAL AND TECHNICAL TRAINING: SETTING THE RECORD STRAIGHT

*Claudio de Moura Castro*¹

This paper reviews some of the classic themes in vocational and technical training. The area is still plagued with controversy and the lines of consensus remain inadequately mapped. Much of this paper is an attempt to set the record straight and adopt positions on many issues concerning vocational training, starting with a question as basic as whether it makes sense to use public funds to pay for training. The second part of the paper makes a number of policy suggestions with regard to critical training issues.

Although the word 'training' is quite broad and often ambiguous, this paper covers the preparation of workers and technicians for activities in the manufacturing and service sectors (training for agriculture is excluded because of the difficulties in making generalizations which would apply also to this area). It examines more closely the situation of Latin America, but most of the analysis and policy suggestions apply equally to other parts of the world.

Economic development and training

There is ample consensus among researchers that education has been a critical fac-

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tor in production and that its importance has been increased by the latest wave of technological transformations that have swept the world and reached Latin America. This paper contends that the same can be said of training, which is a natural complement of education in generating human capital. In the second half of this century, Latin America invested in the creation of training systems that have been an invaluable component of the development policies of the countries in the region.

During most decades in the past, high growth ensured employment for all graduates. In fact, quantity was more critical than quality. But after a succession of economic crises, which began in the 1970s, quality became more important and the fine-tuning of training to existing demand became even more important.

The new wave of economic transformations has made training at once more important and more difficult to calibrate to the new and more stringent requirements of the world of work. Enterprises working at the leading edge of technological change have become avid producers and buyers of training. Traditional industries face the threat of open borders, internationalization and fierce competition. Without significant improvements in the quality of their workforce, which is required for modernization, they risk being wiped out of the market, as has already happened in many cases. The new forms of organization that would allow such industries to survive require workers with much higher levels of education and training.

Policies that make sense

This section reviews some of the classic issues and debates in the area of vocational and technical training. Its goal, however, is not to review them, but to adopt positions on them. Although this paper is based on the best empirical research available, it goes far beyond factual statements, delving into the less safe field of judgement and prescription of policies.

CAN SOCIETIES MAKE GOOD USE OF TRAINING?

The success of any training initiative depends on a broad range of circumstances in the country concerned. Some of the policies and actions required in order to create a favourable environment for the success of training are beyond the legitimate range of interventions by the usual decision-makers in the area of training. Training by itself will not be effective unless the conditions for the deployment of the skills learned are favourable. Successful efforts need an enabling environment in which training can thrive. If such conditions are not present and if they pertain to the micro-environment where training and deployment of acquired skills take place, creating them may be the first task. The first and foremost prerequisite is the creation of jobs. Unless jobs are being created, there is a high risk that training will be ineffective.

TRAINING OR EDUCATION?

Before laying the groundwork for vocational training policies, it is important to sort

out the roles of vocational training and education. Although there are conceptual differences between the two, the borderline between training and education is quite blurred. At the extremes, education is knowledge removed from practical applications (for example, learning astronomy is pure education, except for those who plan to become professional astronomers). Pure training is a skill preparation that does not explore the theoretical implications of the tasks being learned (for example, learning how to use a saw and a jack plane without learning drafting and the requisite mathematics). However, in most cases the two are combined. Good training and a good education are equally good when they promote the broad conceptual and analytical development of the trainee. By the same token, good education is often linked to applied endeavours that turn theoretical knowledge into a practical skill. The difference is mostly one of intent. Education uses the practical or occupational content to achieve a greater mastery of theory, being somewhat unconcerned with the application of knowledge in the marketplace. Training starts with the clear goal of preparing a person for an existing occupation, theory being a necessary component to prepare a better worker for that position.

Training is not an economic substitute for good schools for all. Although it can serve this purpose in limited cases (and can be a convenient way to give context to theory, as explained in the next section), this is not a general solution, in view of its higher cost and the fact that not all occupations need vocational or technical training. By contrast, a solid basic education is the best preparation for a wide range of jobs. In addition, it shortens the length of training required. In other words, the need to develop a good training system does not replace the perhaps stronger imperative to develop a good general education system.

On the other hand, no country can expect to develop its economy without a very substantial training effort. This has not happened in any nation, because in some areas on-the-job learning is not feasible and the complexity of the subjects requires a long learning period and a heavy load of theory. For that reason, all industrialized societies have massive and expensive training systems.

GOOD TRAINING IS ALSO GOOD EDUCATION

Modern economies require strong cognitive development as a foundation for vocational skills. Learning an occupation requires increasingly higher levels of understanding of scientific theories and the technological component of occupations. Part of this education should precede training, thus facilitating and shortening it. But, in addition, most training programmes offered today could benefit from a little more emphasis on language, mathematics and science, as is the case with the best courses and apprenticeships. This is increasingly happening in Germany, in Tech Prep in the United States and in the new generation of SENAI courses in Brazil.

While the word 'training' may be applied to such sophisticated areas as medicine and engineering, the modes and levels explored here are targeted at young people (or adults) who have relatively low levels of education. Therefore, the methods used to provide the training make a great deal of difference, since in addition

to teaching practical or manual skills they must develop the ability of trainees to understand the tasks involved in their occupation and to reason intelligently.

Recent developments have shown that the integration of skills training with conceptual development is possible. Moreover, this integration constitutes a learning environment that is particularly favourable to embedding theory. The learning context should resemble the context of application. Learning can be triggered by practical problems which, in themselves, are interesting. These are the principles behind the 'basic skills' movement, as well as 'applied academic subjects' and the 'contextualization of learning'.

While learning an occupation, trainees may have an ideal opportunity to develop the same general skills as are taught in academic schools, i.e. general education. But this will not happen spontaneously. The integration of theory and practice, and of workshop activities with general principles of science, can only be the result of deliberate and well-informed efforts. Training programmes should not underestimate the potential offered by such integration or the difficulties in achieving it. There are, however, good practical examples of these ideas: for instance, the new versions of the traditional Latin American 'methodical series', as well as new methods developed in countries such as the United States (Tech Prep, School to Work) and Germany (key qualifications), have a good track record.

Workers with a good mix of practical skills and conceptual understanding of technology can adjust more easily to new and different occupations, grow in their careers and adjust to technological changes. The real issue is not general versus super-specialized training, but the solidity and depth of the basic skills taught in specialized training.

TRAINING PAYS

Careful studies have shown that good training provided at the right moment to the right group pays off handsomely. Training increases productivity and, hence, the income of workers. It also tends to improve their employability and adaptability to different occupations. By the same token, from a social point of view, it is as good an investment as any other, if not better. Well-trained workers can be more productive, as long as they work in an environment that allows them to deploy their higher skills. And an environment with well-trained workers breeds good habits that benefit everybody.

Training consists not only in imparting cognitive skills and dexterity but also in developing the requisite values, attitudes and behaviours, in other words the ethos that is typical of the occupations taught and essential for superior performance in them. Acquiring the values and the skills takes place simultaneously and with interactions between cognitive and non-cognitive areas.

Beyond preparing competent workers, a very significant role of training has to do with transfers of technology. Technology may be embedded in machinery, but it can also be brought to the workplace by training. The best training not only reproduces the skills endowment of a country (or industry or firm) but also upgrades it.

This paper takes the position that the chief justification for training is its long-run impact on technology, know-how and productivity. Increases in graduates' salaries are just one of the consequences of training. Rates-of-return analysis, while a useful tool for understanding training, is only one of the criteria for making intelligent decisions, given the presence of externalities and long-run effects which cannot be detected by looking at costs and earning profiles.

GOOD TRAINING HERE IS BAD TRAINING THERE

Given the heterogeneity of training modes and skills, and the sector of the economy at which they are targeted, aggregation risks masking the truly important findings. Circumstances may be so fundamentally different and the modalities of training may have so little in common that adding disparate results can lead to meaningless averages. By the same token, the fact that training is successful (or ineffective) in one place or at one level says little about its success (or failure) elsewhere. In an evaluation of Russian training, for example, it was found that highly successful courses in Nizhni-Novgorod were totally ineffective in Stavropol.²

Training targeted at industrial skills tends to be expensive and long. Training for the services industries (the whole gamut of office technologies included) is more flexible, less expensive and easier to organize. Training to improve the so-called soft technologies in management constitutes an increasingly important area (ISO 9000, total quality, just-in-time, etc.). Training for entrepreneurs and self-employment is a more recent development and its optimal profiles and success rates are still not well known. Training for the rural sector and for agriculture is yet another area where great uncertainties remain. Enterprise-based training is still another area with its own peculiarities. In discussing training, one is well advised not to mix all these different modalities. It should be noted that industrial enterprises include service-sector activities (accounting, catering, etc.), and that the strong movement to out-source services pushes typical manufacturing activities (such as plant maintenance) to the tertiary sector. It is important not to mix sectors with the intrinsic nature of the training to be imparted.

DEMAND-DRIVEN TRAINING: NO JOBS, NO TRAINING

The number one problem in training is the mismatch between training and jobs. When those who receive training cannot find a job where their skills can be used (directly or indirectly), training is a bad investment. It is often more expensive than education and if skills learned are not utilized, the benefits are doubtful. Programmes lacking good targeting abound. Therefore, obtaining a good match is a *sine qua non*. The rule should be simple and forceful: no demand, no training.

To achieve a good match, the incentives have to be right and the mechanisms that drive training to respond to market demand must be in place. The efficient use of resources should be rewarded at all levels by means of hard and soft incentives. Socially useful behaviours within the training system should be rewarded,

and those that are not good should be penalized. Some recent practices deserve attention—for instance, requiring that a certain proportion of graduates find jobs in which they use the skills acquired, establishing the employability of graduates as a condition of financing, and giving bonuses to schools which establish close links with labour markets (the latter mechanism has been successfully used in the Inter-American Development Bank's Chile Joven project).

Training in independent centres, such as those commonly found in Latin America, tends to pay at least some attention to demand. By contrast, those forms of training linked to the formal systems of education (vocational and technical schools) tend to be more guilty of ignoring the markets for their graduates. This may be one of the reasons why there is a strong tendency to relocate the training end of these programmes. One of the most widespread solutions is to move training to the post-graduate level, having it become a short higher-education career. Another solution is to dilute the occupational component and merely offer a secondary education that initiates students into some broad occupational lines. Yet another alternative is to separate the training end from the education end of technical/vocational programmes, allowing academic schools to focus on academic subjects and move the training somewhere else.

Demand-driven training does not mean that the training institutions sit and wait for the demand to appear or that they accept the usual reticence of traditional business. Like aggressive firms promoting a new product, training institutions need to market their training and convince employers that training pays. Good training meets the needs of firms but, looking beyond present needs, also takes steps to make training a channel for change. Like many other economic activities, training needs an aggressive social marketing effort.

Contrary to current belief, most firms know neither what their training needs are, nor the profile of the skills that would best help them. By the same token, trainers—isolated in their schools—have an imperfect notion of firms' requirements. However, by working together, schools and firms can put their comparative advantages to good use and develop the right training.

World-wide experience shows that quality is paramount for meeting market needs. Improvisation and sloppy practices do not pay in the long run. Successful training imparts a sense of perfection and of responsibility that cannot be learned unless the training environment itself displays these characteristics. Last, but not least, graduates of high-quality training programmes tend to be chosen for existing jobs; hence, from an individual point of view, training is always a good investment.

Demand-driven training can lead to a process of selection of courses and people which may secure economic results but at the cost of avoiding those areas and people that, for equity reasons, are more deserving. Administrators have to be aware of this tendency and set up programmes which strike a balance between efficiency and equity.

WHO SHOULD PAY FOR TRAINING?

There are good reasons to encourage those who benefit from training to pay at least a small part of the costs. This makes the budget load lighter and can increase equity. Moreover, those who pay will expect more, be it in terms of quality or targeting. But it is quite clear that the ability and the willingness to pay depend to a great extent on the clientele and the type of training.

Employers should pay for training which generates results that they can immediately appropriate and where the risk of losing the investment to free riders is small. This usually means short and highly specialized training, or training in which the employers can capture most of the results. The specialized literature calls this 'firm-specific training'. The presence or the possibility of free riders and poaching severely limits the amount of training that individual firms are willing to provide. By the same token, many firms are conservative, reticent about training or overwhelmed by more urgent demands, failing to benefit from increases in productivity that can result from higher levels of skills. In addition, firms tend to be short-sighted and do not usually foresee long-run economic trends and adjust their training to them. Even so, limited initiatives, such as accepting interns or apprentices, may have positive consequences: some service-sector courses should be offered free of charge to vulnerable clienteles, and training for some blue-collar occupations may require some payment.

Those who receive training should pay as much as they can afford. Middle-class students taking short courses geared to the service sector (secretarial work, computing, etc.) typically can pay a significant part, if not all, of the costs. On the other hand, blue-collar workers taking long courses in industrial skills typically cannot afford to pay much, requiring considerable subsidies from the government. In such cases, it will often be pointless to require payment, considering the earnings already forgone and the clientele's low level of income. But the rules should be flexible: these are just illustrations of typical differences in clienteles.

There are reasons to believe that good-quality training generates at least as many external economies as education. However, there is no more rigorous empirical research to back up this statement than there is to support the belief that this is the case for education. But it should be borne in mind that well-trained workers bring sound working habits and techniques to the workplace, and that the best craftspersons are given the task of helping younger staff. In fact, the finest training systems in Europe justify their existence and expenditures on the ground that they are needed in order to develop a technological culture. Hence, training should be treated in the same way as education and a proper balance between expenditures for general education and for training should be sought. There are no industrial countries in which the public budgets for training are modest. (For the purpose of the present paper, we are assuming that payroll levies are public funds.) This is one of the reasons why training systems should not aim at breaking even through cost recovery. The principle should be to raise school revenues as much as permitted by the financial means of the clientele, but not beyond the point where the reduction

in the amount of training taking place will hurt the economy. Additionally, various schemes should be considered to diversify sources of revenue. These may include student loans for higher-level courses, selling of services to enterprises and perhaps even alumni fund-raising.

Public funding of training is not the same as public operation. The first is unavoidable, but the second is often avoidable. Significant efficiency gains are possible when delivery is in the hands of institutions that can be held accountable to outside agencies or actors. Private training firms, non-governmental organizations (NGOs) or the firms that employ the trainees are likely candidates to deliver training. A public institution may also deliver training, as long as it is subject to the same incentive and accountability rules as are usual in the private sector. In fact, leading enterprises in the United States are increasingly divesting their training activities to public institutions, such as community colleges that display comparative advantages in particular areas of business. These colleges have to comply with performance requirements set out in contracts with firms such as Boeing, Caterpillar and the major car makers. If such rigorous accountability can be implemented, there are no compelling reasons to avoid public delivery. But in most Latin American countries, private delivery is still a more feasible alternative.

The government will always have a key role to play both in funding and in policy-making. Training cannot be funded solely by the private sector or from the payments made by trainees, even though there should be an effort to increase the latter's financial participation. The payroll tax has been a common and successful means of financing training. However, new styles in public finance resist funding mechanisms that tie revenues to uses. There is clearly a conflict with a tool that has sheltered training from the vagaries of public budgets and allowed it to bloom. Governments' record in the co-ordination of training has been mixed. Training boards have been effective in some countries but not in others. The tools to give effective power to boards are not obvious. At the same time, it is most fortunate that some boards were ineffective, given their prejudices and poor judgement. As a rule, one ministry is powerless to influence whatever activities take place under the auspices of another ministry. The bottom line for co-ordination is not very optimistic: there are few winning formulas.

How to improve training

This section presents a number of proposals for improving training and reforming institutions, based on the experience of Latin America and elsewhere.

IMPROVING THE PERFORMANCE OF EXISTING PROVIDERS OF TRAINING

Latin America has had a long and distinguished tradition of vocational training. The Brazilian Serviço Nacional de Aprendizagem Industrial (SENAI) was created in the early 1940s, ushering in a long succession of similar institutions in just about all countries of the hemisphere. In essence, SENAI-type institutions are funded

through a payroll tax of around 1%. The SENAI, SENA, SENAC, SENATI, INCE, INA and INACAP, as these independent institutions (henceforth called the 'S and I' system) are known in the various countries, in most cases come under the responsibility of the ministries of labour rather than of education, and are much closer to the productive sector than are regular academic schools. They benefited from a set of very interesting and robust teaching methods—the 'methodical series'—which provided solid materials for the thousands of vocational schools spread over the continent. Since they were detached from academic schools, these institutions catered to students after the latter had left them. As schooling levels in the region increased, they were able to readjust their offerings to meet the needs of students with more education. In addition, they shifted from pre-employment training to a much larger share of programmes offered to improve the skills of those already in the labour force. For that reason, the sharp distinction often made between pre-employment and the upgrading of skills is not so important, because the training institutions were the same and they tended to adjust their offerings according to market conditions.

Twenty years ago, the 'S and I' institutions were the pride of Latin America, a wealthy and well-run set of institutions, in stark contrast to the poverty and mediocrity of academic schools. However, starting with the economic crisis of the late 1970s, they began to experience problems with placing their graduates and were slow in adjusting to the new times. In addition, they became older, slow to react and, in a few cases, were infiltrated by the politicization and unionization of staff. Their staff became increasingly demoralized and the institutions acquired the reputation of being a problem rather than a solution. Outsourcing and other economic changes have eroded their financial resources. No easy solutions have been found for those institutions that have more serious problems: they retain the political strength to resist attempts to reform or close them down.

Since the 'S and I' institutions were particularly slow to serve the lower end of the labour market, ministries of labour and international agencies (in Central America) have intervened during the last few years to create programmes to train workers for the informal sector as well as unemployed young people. Some of these programmes have been more successful than others (e.g. Chile Joven and Proyecto Joven), although the overall record remains unclear. Some are successful within the narrow confines of what they try to do, but they do not provide a solution to the overall task of training workers. Fine-tuning the best formula to train disadvantaged workers and young people has to go hand in hand with the more substantial task of working with the larger and much more central 'S and I' institutions.

The dynamic and effective set of training institutions in Latin America was a just cause for pride, and attempts to export this system to Africa were made. But as already mentioned, some of the 'S and I' institutions have lost their shine, blunted their ability to respond to market needs and become politicized, heavy and unmanageable. With some exceptions, the large training institutions in Latin America have become slow, inefficient and expensive, even though they may still deliver good-quality training. They are in need of structural transformations to make them more

acutely aware of the need to better target their output, respond more quickly to market changes and obtain more results from given inputs. But there is no single formula for achieving those objectives. Reform does not bring about an abrupt or overnight change, but it will probably happen in stages. The goal of reform should be to move along the lines described in this article, at whatever speed is possible, it being understood that these are not mutually exclusive trajectories.

All Latin American countries operated technical-school programmes offering a combination of academic subjects (leading to a secondary-school qualification) and technical subjects (preparing students for the labour market). There are several impressive programmes along these lines, some of them representing new models of technical education. However, in the majority of cases, the results have been disappointing. A good proportion of the programmes were in teacher training and accounting, but they became obsolete and in need of a complete overhaul. The problems of programmes in industrial skills were compounded by the practical impossibility of performing well all the tasks required of these schools. Most programmes tended to offer a watered-down academic curriculum; they failed to prepare skilled workers (the teachers themselves were amateurish); and their attempts to prepare middle-level managers found an unresponsive market. In the majority of cases in which schools offered a high-quality education, students eventually abandoned all their technical training and opted for moving on to the elite higher-education institutions. All in all, this was a rather poor performance. Quite clearly, this is an area in dire need of reform.

As elsewhere, many Latin American firms run employee-training programmes. This is particularly the case when the skills needed by the company are otherwise unavailable and the risk of poaching by other firms is not serious. Yet, in-house training is losing importance as firms choose to contract with outside providers, vendors and even 'S and I' institutions. Instead, companies that provide training are increasingly focusing on upgrading the skills of existing employees, on providing more sophisticated skills and concentrating less on basic skills training, or on providing managerial skills. The exception is companies operating in industries where technology is complex or rapidly changing. Such companies generally run expensive and ambitious training programmes compared with the more traditional firms. All these efforts should be similarly welcomed from a public policy point of view. The government should be concerned only with monitoring the training behaviour of firms because it needs to fill the gaps where spontaneous market mechanisms do not provide sufficient training. Moreover, it is the government's responsibility to ensure that legislation and the structure of taxation do not create incentives or disincentives for training.

In the following paragraphs, a number of important observations regarding the large training institutions—the 'S and I' institutions—are set out. They are valid for Latin America, as well as for many other regions of world.

All training institutions should closely monitor the market for their graduates. Tracer studies of former trainees—formalized as in SENAI/São Paulo or ad hoc—are one of the easiest and most effective means of keeping track of market evolu-

tion. But other methods are also available and are equally useful. Large, centralized and expensive tracer studies are not necessary. Informal contacts with former students and close interaction with those enterprises that typically hire graduates can work quite well. What matters is a sense of proximity and intimacy with the market, and the belief that it is incumbent upon the schools to adjust the supply of training to existing demand. The rule is simple: no demand, no training. Information is a necessary but not a sufficient condition for change. If sanctions for generating unemployed graduates do not exist, school operators have no interest in obtaining information or in using it when provided. Thus, the implementation of a policy mandating the monitoring of markets depends more on changing incentive structures (creating penalties for poor targeting) than on the nuts and bolts of generating information.

Breaking the monopoly of the large public training institutions is a possible policy.

The creation of competitive training funds is a very attractive alternative that will increase the efficiency of the system. As a rule, there is ample justification for the survival of the 'S and I' institutions, but there are equally strong reasons to make them a smaller player in the training market. They should compete with many other providers (in some cases, sharing the payroll tax with private providers) but also retain a major role in training trainers, preparing high-quality training materials and playing a leadership role.

In order to reduce the mismatches between supply of and demand for training, employers should be given a greater voice in the decisions of training institutions. The token presence of business representatives on boards or in working groups is not enough. Real entrepreneurs with real power should be involved in making these decisions. The participation of unions should be welcome in cases where they have developed an interest in training.

Linking some components of the budgets of training institutions to their success in adjusting training to demand can increase efficiency. There are several mechanisms to award prizes or reduce budgets according to performance, in particular by linking funding to the success of graduates in finding suitable jobs, as the Chile Joven project has done.

Apprenticeship schemes requiring placement in a job prior to training are more immune to lack of targeting. Hence, this is a path that should be considered seriously (see next section).

Under some conditions, training institutions could shift their emphasis to an acquired normative role. However, the agency that creates and enforces norms should not also provide training (unless its norms affect sectors where it does not operate). In view of the reluctance of the 'S and I' institutions to withdraw from the conventional delivery of training, standards should be within the purview of the government or of a new agency or board created for that specific purpose.

A DUAL SYSTEM FOR THE TROPICS?

On-the-job learning acquired a more deliberate and purposeful format beginning with the establishment of apprenticeships in the Middle Ages. The idea of using the job environment as a learning place and the established master craftsmen as trainers remains as valuable today as it was in the past. In Germany, a classroom component was added to the system of learning by doing and watching, giving rise to the expression 'dual system' for the practice of alternating between classroom and work environments.

Much effort has gone into reproducing the 'dual system' in Latin America and elsewhere. However, the stringent requirements imposed on employers' and workers' associations, as well as on governments, has led to only modest results. We could say, although it would be an exaggeration, that it is either small and good or big and bad, because of the difficulties in scaling up the system and the complexity of the required articulation between different social actors.

There are good reasons to pursue apprenticeships closely modelled on the German format in sophisticated or upmarket areas where the small numbers more or less correspond to the demand, and the complications and costs are justified by the strategic importance of the skills.

However, the idea of adding some structure, technology and basic skills to existing on-the-job learning and apprenticeships remains quite promising (Tunisia has adopted a very well-conceived programme along these lines, but its implementation has been inadequate). One of the driving forces of this approach is to correct the bad working habits and shortcomings of workers, since poorly trained workers transmit their poor craftsmanship to their apprentices. Moreover, cognitive skills such as mathematics, drafting and reading are badly taught, if at all, in traditional enterprises. These apprenticeships could be offered to large numbers of people at very low cost.

Regardless of the seriousness of the public sector's efforts to provide training, in most societies this will constitute only a small fraction of the learning opportunities available. However, various training programmes are offered by proprietary institutions, NGOs and employers. Correspondence programmes, television and videotapes offer unlimited opportunities for learning. While there are no statistics for these training alternatives, there are good reasons to believe that in a modern economy the sum of these private and scattered initiatives may enrol several times more students than official public training.

Workers learn by doing. The fact of the matter is that the workplace is also a learning place. All policies that encourage workplace learning are welcome.

Once workers reach a certain threshold of education or training, self-learning—be it by buying books and magazines, going to the library or using the Internet—becomes a major source of knowledge and skills. Given the proper incentives at work, availability of self-learning opportunities and mastery of reading skills, the potential for additional learning is great.

The public sector, like its private counterpart, also provides a significant amount

of training. The problem with training in public institutions (sometimes including parastatals) is that it tends to be seen as an entitlement. Workers are trained because there is a mandate to train, not because there is a concrete need for additional skills. This leads to waste and ill feeling, since nothing happens after training has taken place. The rule for rectifying these mistakes is simple: training in public institutions should follow exactly the same principles as those adopted by the best private enterprises, avoiding the waste of aimless training and the myopia of conservative enterprises.

Public policy should stimulate all forms and modes of learning. This can be done through regulation, such as the certification of skills or policies to increase transparency and to protect consumers. Apprenticeship requires careful planning. The legal framework may kill or boost such schemes. In the case of training provided by enterprises, tax rebates or other forms of subsidies can be considered. At the very least, the government should not hinder or over-control these initiatives.

LIFELONG LEARNING

Modern societies offer a myriad of education and training opportunities outside the official and public institutions. Proprietary schools offer courses in computers, secretarial skills, accounting, languages and other subjects. Distance education has been present in the form of correspondence schools and has now migrated to television and the Internet. Television, cable television and satellites are being used for specialized courses and mass education, including extension courses in farming and small-business operations. Universities, higher-education institutions and technical schools already offer extension courses, both to the public in general and under contract with companies. Last but not least, NGOs cater to the lower end of society and have played an invaluable role. Some estimates, methodologically flawed though they may be, suggest that the amount of informal education and training is several times greater than that offered through academic and formal channels.

Despite the significant variation in quality, the overall impact of this motley set of initiatives is not to be underestimated. There are very good reasons to encourage further expansion of such activities (in some Scandinavian countries they reach as much as half of the population, while in the United States they reach one-third). Therefore, countries are well advised to enact appropriate policies and create an overall environment in which they can flourish. Protecting consumers from fraud, amateurish efforts and deceptive advertising should be part of the training policies adopted by all countries. But outright regulation and licensing of initiatives will in most cases do more harm than good.

NEW FORMS OF DELIVERY FOR FORGOTTEN CLIENTELES

Latin American countries have had considerable success in developing institutions capable of offering high-quality training for the classic manual trades. However, their record in providing for the lower end of the labour force (both formal and

informal) has been mediocre. In particular, the challenge to train workers for many segments of the informal sector has not been met. The fact is that, given the countries' resources and the costs involved, the ability to train a significant proportion of these workers is limited, even if they were to use the budgets for training workers for the modern sector.

The traditional training institutions may hope to reach this huge clientele (which is about half of the labour force in many countries) only by creating training technologies which would permit a dramatic reduction in costs per trainee. Distance education is a possibility that has been tried on relatively small scales in different countries. The use of mass media, such as television and videos, is another promising variant (Tecnológico de Monterrey offers training in this manner). The possibility of franchising training to small operators is another path (pioneered by the Iazig Language Institute and informally tried by SENAI in some of its simpler metal-mechanic courses). Teaching basic skills to workers who have otherwise mastered the more manual dimensions of trades is a less usual but promising alternative.

Perhaps a significant share of the training for low-end clients will have to be offered by other institutions. What can be called the 'chequebook approach' is to have central authorities purchase training by competitive bidding in the private and public market, instead of trying to create a system or rely on the regular training institutions. An interesting example is provided by initiatives to contract launched by some ministries of labour. NGOs and other small institutions already offer training in simple occupations; financing by the ministries of labour could increase the scale of operation of these activities.

Self-employment training is the only obvious exception to the proposition that training does not create jobs, and therefore deserves considerable attention. Nevertheless, its record is mixed. A careful selection of candidates is critical for achieving an acceptable success rate. Young people just out of school have few chances of being successful in creating their own businesses. Programmes which work provide far more than training to the chosen candidates (they also provide financing and technical co-operation, for instance), despite the fact that training institutions have few comparative advantages in offering more than training. Programmes which try to improve the performance of already established small enterprises fare better than those trying to enable trainees to create their own firms.³

UPGRADING TRAINING FOR THE MODERN ECONOMY

Economic modernization requires increasingly complex forms of training. Training institutions must upgrade some of their courses in order to cater for new needs such as increasingly complex technologies. Technician training, undergraduate programmes and, eventually, post-graduate courses need to be offered in areas such as computer-aided design/computer-assisted manufacturing, robotics, welding technology and industrial automation. As programmes with more sophisticated technical components begin to be offered, there is a tendency to offer also services which go beyond regular training. These include quality control, technical assistance and,

in the best schools, applied research and development (R&D) (there are some good examples of this, particularly in Brazil: SENAI and a few federal technical schools). The models of the United States community colleges and the French *Instituts universitaires de technologie* (polytechnic institutes) deserve particular attention.

Modern training requires many bridges between school and enterprise. Traditionally, there was an abrupt transition from training to the job market. Even when internships were offered, they tended to be formal afterthoughts, not true links between school and work. With the increasing complexity of technologies, schools cannot fully provide the environment required for learning, and enterprises are unable to offer the full range of theoretical preparation which new technologies demand. Therefore, various bridges between training and work have to be established, particularly in the case of more complex forms of occupational training and technical schools. Internships require more intensive planning and supervision from both ends as teachers spend time in factories and company engineers spend time in schools. These activities help develop joint ventures between schools and factories which could, for example, lead to R&D projects involving students and firm personnel.

TRAINING REQUIRES GOOD MATERIALS AND TRAINING OF TRAINERS

The provision of training requires previous and large investments in trainers, methods and training materials. The most outstanding training programmes are backed by substantial outlays on course development, long periods of fine-tuning the teaching materials and ambitious programmes for preparing trainers.

There must be institutions capable of making investments in R&D, and these must have adequate funding. Training through competitive contracts is desirable for improving the efficiency of delivery and targeting. Yet there must also be institutions that are capable of operating with longer time horizons and that have mandates to provide the pool of materials and instructors required for maintaining high-quality training. From the point of view of training markets, such expertise and R&D investments are essential public goods, even though they do not have to be provided by public institutions, their need for public subsidies notwithstanding. In other words, quality private training is impossible without public investments in materials and people.

There is an acute shortage of trainers in Latin America. No serious effort to improve training can forgo a serious and systematic programme to train trainers. Those who teach technical subjects in technical schools lack practical experience, and regulations usually forbid or discourage the hiring of instructors with real-life experience. In processes of technical and secondary-school reform, efforts should thus be made to convince governments to eliminate or relax rules that discourage the hiring of instructors with relevant work experience. By contrast, those who have practical experience and teach in vocational schools or apprenticeship programmes often lack a strong conceptual basis and the skills to transmit their knowledge. The latter shortcoming is particularly serious in the case of company workers who are

responsible for on-the-job training (equivalent of the German *Meister*). Hence, retraining the *Meister* is also an important component of vocational-school projects.

TRAINING AS SOCIAL POLICY, BUT NOT TO CREATE JOBS

In recent decades there has been a tendency to resort to training as a social policy tool or to justify it on moral grounds. Indeed, training should not be an exception to the imperative that equity must be a permanent target of public spending. But the intention to achieve equity is not the same as effective improvements in equity. It makes a great deal of sense to target resources to the disadvantaged. What matters, however, is not the intentions but the consequences. Unless the trainee can benefit directly from the training received, little is accomplished.

Mainstream Latin American training institutions have, to a large extent, failed to reach the underprivileged classes. The training provided has been mostly targeted to what one could call a 'blue-collar elite', even though the institutions have often done an excellent job in preparing world-class skilled workers. This is no minor achievement. However, in countries where the informal sector accounts for close to half of the labour force, there is a moral imperative not to forget this side of the economy.

Since the oil crisis, training has often been regarded as a tool to combat unemployment. It shows initiative on the part of public administrators and it creates the impression that the problem is being solved. Unfortunately, there is no tangible evidence that training alone creates jobs. Jobs are created when all requisite factors come together, and not merely by offering training. In some cases, training can better equip some groups to get ahead of others in the race for existing jobs. To the extent that public policy aims to boost the employment of such groups, training is a powerful tool. But that is not necessarily employment creation.

The key idea to keep in mind is that training is essential for improving productivity and competitiveness, and hence contributing to the health of the economy. To the extent that economic growth creates jobs, training may in fact make a substantial contribution to job creation. But this indirect and powerful potential impact on growth should not be confused with the immediate impact of training programmes on employment.

In all training programmes, however strong the goals of equity may be, there must be a significant probability of finding jobs at the end of the training or within a reasonable period of time. Unless that is the case, general education or other forms of support for the target clientele may be a better idea.

Even though the overall record is poor, there have been some positive experiences in Latin America with training targeted to underprivileged groups. Perhaps the most significant examples are Chile Joven and Proyecto Joven (the latter in Argentina), both supported by the Inter-American Development Bank. These are classic 'chequebook approach' initiatives in which the potential providers compete for the contracts, but in order to bid they have to convince an employer to hire the graduates or offer them an internship lasting as long as the training programme. Both programmes have yielded rates of subsequent employment significantly

higher than those found in a control group. In all such programmes, the challenge is for there to be a reasonable probability of getting jobs in programmes targeting deprived clienteles.

Conclusion

Well-focused training is investment in human capital at its best and is indispensable for economic development. Hence, there are good reasons to support training.

Good training is not inferior to general education in developing the mind and providing a strong conceptual background. But it is not a substitute for a serious and widespread system of education.

Like education, training generates some benefits which are appropriated by those who can pay for it, but also other benefits which benefit society at large (external economies). Thus, there are good reasons to try to have those who benefit pay at least part of the costs and, at the same time, to appropriate public funds to bear the costs of what cannot be paid for by users.

While the government has to pay for a significant share of the costs of training, there is much more flexibility at the delivery level. Training can be provided by private, non-profit or public agencies. What matters is not necessarily the legal status of the provider but the mode of contracting.

All forms of discrimination should be eliminated, be they based on gender or other factors. Similarly, there should be a strong determination that disadvantaged social groups not be omitted from training programmes.

In training, what matters are the results, not the intentions. Regardless of clientele, training is justified when it leads to jobs; it should not be considered a form of social assistance.

'No demand, no training' remains a good rule of thumb. Training that does not lead to jobs tends to be a very bad investment. Any programme which does not enable a large proportion of the graduates to get a job where some of the skills learned can be deployed should be carefully evaluated.

Evaluation and monitoring are critical for identifying and correcting errors, and for learning the lessons needed to avoid repeating the mistakes of the past. It is more convenient, easier and more rigorous to design evaluations beginning in the early stages of the project.

There are no single solutions that are good for all countries or even for the same country at different periods. It is imperative to respond to specific needs and avoid 'one-size-fits-all' solutions. Nevertheless, given the existence of large, expensive and somewhat dysfunctional training organizations in most countries, their reform is often one of the more central priorities.

Notes

1. This paper borrows heavily from a draft, by the same author, of the Inter-American Development Bank's strategy for training. It has benefited from the work of Richard Johanson and Andrés Bernasconi, who are co-authors of the background paper that will accompany the strategy and will contain the relevant references and sources. In addition, useful comments were received from Jon Lauglo, Gustavo Marquez, Maria Luisa Silveira, Gregorio Arevalo, Roberto Boclin, Christian Gomez, Armando Jose Namis, Gabriela Vega, Viola Espinola, Jorge Tejada, Martin Chrisney, Larry Wolff and J. Martinez, and from members of NORRAG (an international association of major donors in education and training).
2. C. de Moura de Castro and M. Feonova, *Tradition and disruption in Russian vocational training*, Washington, DC, World Bank, June 1995.
3. J.P. Grierson and I. McKenzie, *Training for self-employment through vocational training institutions*, Geneva, ILO/SKAT, 1996.

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THE ROOTS AND NATURE OF REFORMS IN VOCATIONAL EDUCATION AND TRAINING: AN ANALYTICAL FRAMEWORK AND SOME EXAMPLES

Fred Fluitman

Introduction

Technical and vocational education and training—or training for short—is a world away from general education: there are different purposes, different actors, different ways and means, i.e. altogether different systems. The training systems of countries are universally heterogeneous and invariably complex; they are beset by innumerable problems, and the task of steering them towards their objectives defies easy solutions. For a variety of reasons, countries around the world appear to be almost permanently involved in reviewing and reforming their training policies and systems. On the basis of the experience of a fair number of them, this paper will attempt

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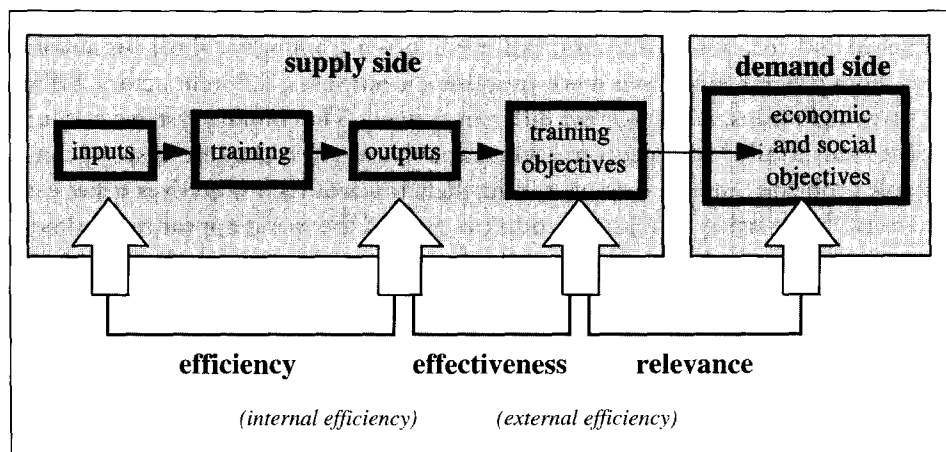
Senior Training Policy Adviser, Training Policies and Systems Branch, International Labour Office, Geneva. An economist who joined the ILO in 1972, he first worked in Zambia and Ethiopia before being assigned to the organization's headquarters in 1976. In various capacities, he has in particular dealt with the policy dimensions of skill development. He has written, *inter alia*, about training for work in the informal sector of developing countries, about traditional apprenticeship in Africa, about the process of training policy analysis and about constraints and innovation in the reform of vocational education and training. Since February 1999 he has been on secondment to the ILO's International Training Centre, based in Turin, Italy.

to summarize what appear to be the main roots and the nature of reforms currently being put forward or implemented, and it will briefly discuss the sort of obstacles encountered in seeking change. A simple analytical framework is proposed, and a number of examples will illustrate why and how countries address their training challenge.

The roots of reform

The multiple roots of training-sector reform are essentially of three kinds, namely concerns, within or outside the training system, about the relevance of training being provided in the country; concerns about the effectiveness and the efficiency of the national training system; and concerns about paying for training and being able to sustain the necessary effort over time. In other words, reforms in the world of training supposedly respond to a certain uneasiness about the status quo, as measured by yardsticks that reveal in particular the extent to which, and the manner in which, training systems meet their external and internal objectives. The external, demand-side objectives add up to what countries have reason to expect of their investment in training. The internal, supply-side objectives constitute what training institutions set out to do, which may or may not coincide with needs and opportunities in the world of work (Figure 1).

FIGURE 1. Training systems' external and internal objectives



Relevance

It is generally agreed that training should serve precise and useful purposes, notably in relation to what people do or might do for a living. Training is essentially for employment; while it may not add to the stock of available jobs, not directly in any case, it is obviously meant to enable people to access certain income-earning opportunities and do their work as best they can. Training, in conjunction with other mea-

tures, should help enterprises to be productive and allow countries to be competitive. And in targeting some people for training rather than others, it might redress certain imbalances in society.

A national training system may be considered to lack relevance if it does not produce, or no longer produces, enough of the skills that contribute in one way or another to meeting macro-economic and social objectives such as income growth and equity; or if it does not respond adequately to changing circumstances, notably those in the labour market. In principle, training systems should be demand-driven, demand being defined broadly to include all the country's current and future skill requirements and opportunities. They should be outward-looking and reflect, if not anticipate, employment realities. Even a rapid analysis suggests, however, that more than a few national training systems do not live up to what their sponsors have reason to expect of them. They are in fact largely supply-driven, no doubt because those who direct them find it difficult to establish precisely which skills are useful in the world of work, or because they are convinced that skills, whatever they are, will always find some use.

The relevance of training and training systems, sometimes referred to as their external efficiency, should be of particular concern to countries interested in, or actually undergoing, rapid economic and social change, as illustrated, for example, by high rates of labour force or employment growth. Demand-side pressures on the training system may, more specifically, be associated with active or passive structural adjustment, the widespread introduction of new technologies, measures aimed at increasing competitiveness in international markets, attempts to make labour markets more flexible, calls for greater equity in society, or policies designed to eliminate discrimination in the workplace. In many countries, the training system is explicitly entrusted with taking the sting out of unemployment, particularly of young people. Certainly, some of the expectations that people have of training may be inflated or even unfair: there are limits to what it can do. The point, however, is that training is widely regarded, and rightly so, as a pertinent policy instrument in meeting a variety of objectives that are external to the training system.

Among common symptoms of deficiencies in the relevance of a country's training system are more or less obvious skill-related productivity problems in the national economy, together with continuing vacancies in certain skilled occupations and significant surpluses in others. Other indicators are people being trained for jobs which do not or no longer exist, and curricula that are manifestly unrelated to the demands of the workplace. Large numbers of unemployed graduates are an unpleasant reality indeed, particularly in poor countries. The fact that a training system offers opportunities only in a limited range of necessary skills and to relatively few trainees may also represent a case for reform. The virtual exclusion from the training system of people who are euphemistically called disadvantaged may be seen as contradicting pronouncements about an equitable society. And to believe that you are only trained once, i.e. to pay scant attention to opportunities for regular skill upgrading and retraining, should now be considered outdated. In general, a limited awareness of the situation in the labour market among trainers and their man-

agers, or among trainees for that matter, bodes ill for the validity of the national training effort.

Effectiveness and efficiency

Concerns about the inner workings of training systems may be gauged in terms of effectiveness and efficiency, two distinct aspects of a yardstick also known as internal efficiency. A training system is effective if it succeeds, according to plan, in imparting skills of a certain quantity and quality. Effectiveness denotes the relationship between intended and actual output. There would seem to be grounds for reform if the system—all or part of it—is not, or is no longer, capable of meeting its training objectives. Among the usual symptoms in this connection are complaints by employers, for example about the quality of the training product, or about the time it takes the system to respond to new demands. Former trainees, in turn, may find that their skills, while nominally relevant, leave something to be desired, for example in terms of their depth or portability. In auditing for effectiveness, one may furthermore find that certain training institutions are faced with high drop-out and low pass rates as a result of major or minor system failure; or that they are unable to attract a sufficient number of applicants. Similarly, it is not usually a good sign if those who are meant to benefit from an investment in training are reluctant, rather than unable, to pay for it. Disgruntled trainers, or problems with other training inputs, are likely to leave their mark on product quality; and trainees up in arms about one thing or another may also have a point to make.

Efficiency is, as always, about the relationship between inputs and outputs. As long as systems, in doing whatever they do, are not making the best use of the resources at their disposal, or if, in other words, there is waste, there is room for corrective measures. Training systems may be perfectly relevant, and indeed effective in meeting their targets, without being very efficient: staff and facilities may be patently underutilized, or economies of scale not sufficiently achieved; courses may last too long or be overburdened with unnecessary content. Other indicators include serious fragmentation and multiple sponsorship of public-sector-supported training programmes, and complaints by training managers about bureaucracy and being unaware of training costs.

Financial concerns

The aggregate level of resources that countries devote to training, and their networks of funding sources and channels, are largely unexplored territory, no doubt because so much training taking place, for example in enterprises, is hardly visible. Even as far as the formal, publicly supported training system is concerned, many governments are only partially informed about costs, and are mostly in the dark as regards benefits. Rather than asking where the money has gone, many are struggling—either with answering where the money should come from, or why it should come from government sources. Their training authorities are typically occupied

in mending a colourful patchwork of financial provisions that are more often an outcome of political pressure and marginal management than of any in-depth analysis. The need to understand better the financial side of the training system may therefore represent a reason for reform in its own right; it may also be considered a condition for meeting a host of other reform objectives, such as boosting the performance of training systems or being capable of sustaining the necessary training effort over time. Financial reforms of the sort that will bring about a reassessment—i.e. a reduction—of government subsidies are also rooted in a current interest, and not only in transition economies, in leaving things to a greater extent to ‘the market’. The notion that training is to be dealt with as an investment that should yield an adequate return is increasingly advanced to justify recovering costs from beneficiaries, who by the same token are believed to know best what it is they want to buy and where to buy it. The fact that most markets are far from perfect does not apparently, unlike in the past, distract the governments in question from trying to shift in that direction.

Input constraints will, almost by definition, affect the performance of systems that might otherwise be relevant, effective and efficient. They may eventually threaten the sustainability of training systems. In many countries, for a variety of reasons, governments or other sponsors are no longer able or willing to pay for training as they used to. Particularly in countries affected by transition and structural adjustment, it may be found that government budgets are slashed and that training systems are among the first to suffer as a result, with essential staff demoralized or lacking, with facilities and equipment that are inadequate or beyond repair, and with the quality of training spiralling down before enrolments decline. In other countries, such as those emerging from serious conflict, it may be found that inadequate training systems are generously refurbished with money provided, temporarily, by external donors. This leaves the prospect of problems arising, typically as regards recurrent expenditure, as soon as these donors move elsewhere. Whatever the precise case may be, one would hope that financial arrangements are in place, or reforms envisaged as necessary, so as to guarantee that training systems continue to have access to critical resources.

The nature of reform

It is worth observing with regard to training-sector reform that, compared with general education systems, national training systems rarely resemble each other closely. One needs only to look at training systems within the European Union to realize how very different such systems can be. It appears that their evolution has proceeded along vastly diverging tracks. Moreover, a large number of countries around the world appear, at any given time, to be pursuing further changes in the make-up of their training systems. Since needs, aspirations and circumstances vary from place to place, and in terms of time, these changes may be major, amounting to a complete overhaul of the training system, or minor, qualifying merely as routine corrections, marginal tinkering or scratching of the surface. In either case, what

countries actually do to enhance the utility, performance and viability of their training systems is hardly ever original. There is, in fact, a great deal of borrowing and copying, with or without adaptation, and it is therefore perfectly plausible to find that certain countries adopt measures or strategies that are being questioned or have just been discarded in other countries. Although it is not denied that certain global trends may exist, the examples that follow thus present a mere composite picture of recent reforms rather than a list of anyone's favourite recipes.

As the roots of training-sector reform are typically multiple and intertwined, reform measures tend to come in strategies or policy packages intended to serve several purposes at once. It is nonetheless possible to distinguish new policies by their *raison d'être* as follows: concern about relevance should in the first place give rise to the *reorientation* of training systems; concern about effectiveness and efficiency may be addressed in particular by *reorganizing* training systems; and concern about sustainability or possible input or budgetary constraints may have to be dealt with by the *refinancing* of training efforts.

Reorientation

Improving the extent to which training systems meet external objectives is, first and foremost, a matter of getting their focus right. Reorienting training systems means training for new purposes and recognizing new priorities; and it is likely to be seen in new products being offered, and new clients being served. For instance, in the case of structural adjustment or transition from a centrally planned to a market economy, where certain sectors decline or disappear while others grow or emerge, there should be training for new industries and new occupations—and streams leading nowhere should be closed down. A good example is to be found in organizing comprehensive training programmes for the banking sector in the Russian Federation. The introduction anywhere of new technologies points, almost by definition, to changes in the level and composition of skill requirements, and hence should have consequences for the size and nature of a country's training effort. Some of the necessary training might be undertaken on the job, possibly with the assistance of equipment or software suppliers. In other instances, such as in the printing industry, people may from time to time have to go 'back to school' to be introduced to a completely new curriculum.

Other measures taken by enterprises to become, or to remain, competitive in international markets, including new forms of organizing work and measures aimed at making labour markets more flexible, should also have consequences for training. Relatively new concepts, such as employability and trainability, are increasingly finding their way into the formulation of training objectives. To meet these new objectives, new approaches are being proposed—or put in place—that emphasize the importance of core skills and appropriate attitudes in young workers, and of making arrangements for lifelong learning that would enable people, as and when needed, to add specific, up-to-date competencies. As a corollary, or for reasons that are unrelated, reforms in respect of skill standards, testing and certification may also

be pursued. Eventually, a trend in that direction could mean a departure from a strictly occupational orientation, in favour of competency-based, modular approaches to imparting the knowledge, skills and attitudes that employers seek in their employees. However, sometimes heated debates about the relative merits of vocational education versus vocational training, and of pre-employment training versus in-service training, illustrate the fact that views about new directions may vary widely among countries, and certainly also within countries.

A growing number of countries, notably those plagued by intractable employment problems, are interested, despite generally disappointing results, in training larger numbers of people, particularly as a means of preventing or reducing social exclusion and inequity. Their governments now subsidize the training and insertion of the long-term unemployed, retrenched workers, 'problem kids' and hitherto 'forgotten' segments of the working population, such as women, ethnic majorities (in South Africa!) and people who are self-employed in the innumerable informal sector enterprises of Third World mega-cities. A minor trend may be seen to emerge in this respect, namely for governments to focus primarily on training for those who have a distinct disadvantage in the labour market, leaving the rest, i.e. the training of the people who are not disadvantaged, up to employers and private training providers.

Reorganization

Once the orientation of the training system is established, one would like the system to perform optimally. A natural response to imperfections detected in operating systems is to reorganize the latter, which could mean introducing alternative institutional arrangements, new management, new or improved administrative procedures, and other quality-enhancing measures. Examples include adjusting the links between training and education on the one hand, and between training and the world of work on the other. This may be done, specifically, by rethinking entry levels, adding streams and layers, as well as 'ladders and bridges' to connect distinct parts of the system, and involving enterprises to a greater extent in the world of training, for example by promoting apprenticeship or recruiting part-time trainers from industry. Also, steps may be taken to reduce red tape and to eliminate unnecessary or unfair regulation, e.g. in respect of private training providers. If, indeed, it is planned increasingly to share the training burden with the private sector, private providers may need incentives in order to play their part in full.

Other policies may be designed so as to decentralize public provision, and to give various stakeholders a greater say in matters that concern them. There are several countries where important decisions, such as those on curricula, are taken at the level of institutions with the participation of local employers and others represented on advisory or management boards. Going a few steps further along this track, governments may decide, to a greater or lesser extent, to devolve responsibility for vocational training to bipartite, sectoral organizations of employers and workers, as for example in the Netherlands. Where governments are content to hand

over certain tasks or responsibilities, there are likely to be new mechanisms in place to ensure the necessary co-ordination.

Among the measures that countries easily decide on, staff development, i.e. the necessary training, upgrading or retraining of trainers and their managers, and training policy-makers, would obviously go a long way both in improving system performance and in adding relevance. Although this is hardly a case of reform *per se*, it appears that some countries are far more serious in pursuing staff development in practice than others.

Finally, the effect of training may be further enhanced through measures that concern what happens before and after training, for example in respect of vocational guidance or job-placement assistance, or services that complement training for self-employment, such as in the micro-credit sphere. In a number of developing countries, training institutions have taken initiatives so as to give technical or management advice to local small-scale producers; or, for a fee, they let them use the equipment installed in the institutions. Alternatively, they have set up business incubators, which help some of their graduates to get started and survive as entrepreneurs. Another example concerns the establishment of units, at the level of the institutions, to act as labour market 'observatories', keeping track of skill requirements and tracing graduates.

Financial reforms

In the financial sphere, as elsewhere, reliable information is an essential ingredient in justifying as well as in implementing change. Finding fault with training systems, whether as an outcome of monitoring and evaluation, or by looking into a state of crisis, is indeed a condition for remedial measures to make sense. The fact that, in many countries, useful information on training is hard to come by or non-existent, particularly information about the costs and benefits of current training efforts and of possible alternatives, contributes to misguided training ventures and feeds the scepticism that is typical of financiers. There is therefore scope for, and in fact considerable interest in, strengthening training-information systems, particularly as regards financial information. Efforts to that end may concern conceptual as well as measurement problems and extend beyond the collection of data to addressing the necessary analytical capacity.

That said, two sorts of financial reforms may be mentioned here—new procedures, for example in response to calls for greater efficiency in spending money, or to ensure accountability in the context of decentralization; and more fundamental measures, i.e. new ways and means of funding the national training effort.

Serious budgetary constraints should normally give rise to a reduction in unit costs before one is forced to reduce overall expenses. It may thus be decided by managers of public training institutions who have been given greater authority in financial matters to reduce the duration of certain training courses, or to eliminate boarding costs from their budgets. An obvious alternative is, on the income side, to become involved in certain revenue-raising activities, such as organizing evening classes or

offering consultancy services. There are limits, however, to either reducing expenses or increasing income, and at some stage it will be necessary, if not to scale down training programmes, at least to explore measures of another sort. As regards the more fundamental of financial reforms, recovering some or all of the costs of training from beneficiaries now appears to be the rule rather than the exception. It is common to find, as regards training provided in public institutions, that fees are introduced or increased, and that enterprises are made to bear at least some of the cost of the training system, for example through levy/grant systems or tax rebate schemes.

Implementing financial reforms does not necessarily mean that governments reduce their training budgets. They may, however, pay for different things or, rather, through different channels, as in the case of offering financial incentives that would lead to an increase in the number and variety of private providers, as was done in Chile for example. Another interesting idea, admittedly not unopposed, concerns the introduction of training vouchers as a means of payment that would at the same time enhance equity and encourage a healthy sort of competition among public and private training providers. New criteria for governments' financial support of either publicly or privately provided training activities, relating for example to their success in placing graduates in jobs, are also being considered.

Obstacles to reform

As is common knowledge, many a new policy may encounter obstacles when it comes to implementation. If reforms fail to achieve their aim this could be because there was something wrong from the start with either the policy itself or its objective. It could also be a consequence of certain constraints that manifest themselves, often unexpectedly, during implementation; or it could be the result of a combination of these factors.

Problems with either a policy or a policy objective are likely to originate in the process of policy analysis and policy development. Reforms in vocational education and training should, ideally, be the outcome of competent officials doing the necessary work, and of involving the parties concerned in regular consultations, if not in making decisions. More often than not, however, or so it appears, reform processes are less than visible, hampered by haste and subject to the same constraints as apply in implementing change: no people, no money, no data, not enough time. As a result, or for other reasons, policies—or what they are aiming at—may not be clear to implementers, not clear enough, or not uniformly understood or appreciated by all. Or they may simply be unrealistic or unattainable.

Of course, the possibility should not be ruled out that reform proposals are based on mistaken or partial analysis, mere assumptions or wishful thinking. For example, policy-makers have been shown to misread the training system's capacity to contribute to meeting certain economic and social objectives, such as eliminating structural unemployment or gender discrimination in the workplace, attracting foreign investment or keeping students out of higher education. Furthermore, training

policy analysts or training providers may have a distorted view of the country's overall skill needs or of demand for training, as a result of—or in spite of—the fact that forecasting these is subject to limitations severe enough to cause some scepticism. An example of partial analysis may be found in ignoring, as happens in some countries, the fact that large segments of the workforce, such as the people involved in agriculture or in urban informal sector activities, could also benefit from access to training. And if asked to substantiate suggestions of misguided optimism, one could point to steps towards introducing a German-style dual system in Togo, or a Scottish vocational-qualifications framework in the Palestinian Autonomous Territories, i.e. in places that are in no way comparable to Germany or Scotland.

The actual implementation of policy reforms, however carefully formulated, is likely to suffer from a variety of constraints, notably with regard to resources, i.e. the people, the information and the money needed to do what must be done. Moreover, the time actually required for substantive reform to take root is commonly underestimated. To design policies with these constraints in mind is indeed a major challenge. Additional constraints, not directly related to resource requirements, may be implied in prevailing administrative arrangements and current regulation. But perhaps the most serious constraint is people who resist change.

In more than a few countries, policy implementation is held up by the fact that people with expertise, experience and commitment are not available in sufficient numbers. It is not unusual, for example, to find in developing countries or transition economies that a significant proportion of trainers and their managers, in public as well as private institutions, lack proper qualifications. Information constraints are to some extent embodied in staff who are less than qualified. Useful information may be scarce to begin with, however, or information flows inadequate, so that trainers, trainees or employers are unaware of reforms, misinformed about them or otherwise in the dark.

Financial hurdles usually begin with underestimating what it costs to implement reforms, but there are often other reasons for complaint: government budgets for training are even further reduced, employers fail to contribute as expected to a national training fund, the ministry of finance 'takes care' of the training levy, the earnings potential of training institutions is limited, a major proportion of trainees are unable to pay increased fees, donors fail to deliver on their pledges, and so on.

Examples of administrative and regulatory constraints include laws and procedures that prevent or discourage public-sector training managers from taking greater control over their budgets, or engaging their institutions in income-earning activities; or that prevent or discourage private training providers from coming forward in larger numbers, or enterprises from investing more in the training of their workers. In many countries, training contents and duration, as well as entry levels and exit standards, are centrally determined and as if carved in stone.

And if, in the end, everything has been taken care of, one may find that attempts at reform are actively or passively frustrated by vested interests, institutional inertia or fear of the unknown. The political will to take unpopular measures, however sensible, may be lacking. There may be key implementers who remain unconvinced

that changes are for the better, who consider that the measures proposed are inadequate or hard to implement, or who are worried about their jobs. One may come up against trainees or their parents, or employers, who favour the beaten track rather than engage in experiments.

A more or less inferior image of vocational education and training, as compared with academic streams, constitutes a particularly difficult hurdle in a variety of countries. It is not uncommon, for example, in places where large numbers of university graduates are unemployed, to find that technical training programmes that would guarantee their graduates immediate employment fail to attract a sufficient number of applicants. Unfortunately, these image problems, however unreasonable, are often kept alive by levels of remuneration that reflect neither productivity nor relative scarcities.

Concluding remarks

It should not be difficult to conclude, on the basis of comparative analysis, that there are good reasons for reforming, to a greater or lesser extent, the vocational education and training systems of many countries. One could in fact conclude at the same time that there is world-wide interest in improving the training tool, and probably more so than, say, a decade ago; and that, in fact, a fair number of countries are in the process of implementing change. It is important, however, to underline that there are no models, no standard recipes for reform, and no short cuts. Unlike general education, which is in principle much the same in different countries, training is exceedingly heterogeneous and, for all sorts of good reasons, there are few countries with truly comparable training systems. That said, this paper has tried to argue that common approaches to training-policy development may be adopted, notably in using common yardsticks for measuring performance, and that reforms in many countries may go in broadly similar directions. What countries do have in common is a range of obstacles that may stand in the way of change. There is again evidence, however, that these obstacles need not be insurmountable. It would appear that training-sector reforms are most successfully implemented in countries whose politicians are truly determined to innovate and to involve stakeholders, from an early stage and in a significant manner, in the reform process.

TECHNICAL EDUCATION: A DEAD END OR ADAPTING TO CHANGE?

David Atchoarena and Françoise Caillods

Introduction

In a world in which the demand for education increasingly finds expression in terms of qualifications and skills that are recognized by the labour market, technical education is indeed a strategic component of educational policy. Accordingly, it is now at the centre of the debate on some of society's major challenges: the fight against unemployment, the modernization of companies and moves to make them competitive, and efforts to reduce poverty and social exclusion.

Investigation of the morphology of education systems reveals that the relative emphasis on technical and vocational education varies significantly between countries and groups of countries, and shows it to be fairly stable in the long term. Thus the severe criticisms to which it has been subjected during the 1990s seem not to have affected its place within education systems. On the contrary, the race to be

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competitive and the erosion of the labour markets have sometimes favoured a political agenda that portrays technical and vocational education as a miracle cure. However, closer examination of educational policies shows that this is a form of education that is seeking to find its bearings, one which is undergoing a large-scale renewal process.

The profound transformations, not to say ruptures, that have marked the 1990s have had considerable consequences for technical and vocational education, even if these have not always manifested themselves in changes in the overall numbers of students. In 1989, the collapse of the socialist bloc, for which this type of education represented a key link in the chain of educational policy, began to call into question the privileged status and position that the technical option had enjoyed in a large number of countries. In a parallel development, the virtual universalization of the principles of the liberal economy and their application to the field of education inspired new ways of looking at the organization and functioning of educational qualifications. Apart from these ideas, the transformation of the world of work and the expansion of education systems were the two major factors in the evolution of technical education in the 1990s. A rapid survey of the situation in different countries makes it possible to identify the thrust of the main reforms in technical education, even though in many cases these have yet to be fully implemented.

In this article we shall set out the criticisms that were levelled at technical and vocational education in the 1980s and 1990s, before going on to examine the extent to which these affected its relative significance in terms of numbers of pupils in secondary education. We shall then consider the transformation in the world of work, which is obliging this form of education to adapt. Finally, we shall briefly describe the various types of reform.

A controversial form of education

The importance of technical education at the secondary level has long been the subject of much debate in both academic and political contexts. Recently, the erosion of the labour markets and young people's increasing difficulties in finding jobs have re-opened the debate everywhere on the role of school. Generally speaking, the debate about education and reforming education systems has been largely dominated in the 1990s by economic concerns. One of the key questions that invariably recurs is how to bring teaching closer to the world of work. Moves to do this naturally have the effect of putting technical education in the spotlight, especially in countries where it bears the main responsibility for the vocational training of workers, employees and technicians.

A quick journey back in time reveals distinct critical points in the evolution of ideas on technical education. In the countries of the South, the end of colonialism often inspired a determination to turn the education system into an instrument for economic take-off. This concern has had the particular effect of motivating a policy of giving a vocational character to what is taught in schools and strict control of access to further education. In some countries that had recently gained their inde-

pendence, the development of technical education and the association of education with production were an integral part of vast ideological projects for the construction of socialism and economic self-sufficiency.

In the 1960s and 1970s, the developing countries became infatuated with technical education. States found precious allies in this preoccupation in the form of the bilateral and multilateral co-operation agencies, all of which contributed to the propagation of an image of technical education as a driving force of modernization. From 1964 to 1969, secondary-level technical education represented the World Bank's second most significant area of educational loans, with nearly 20% of all funds allocated (World Bank, 1995). By the end of the 1970s, this proportion had fallen to around 10%. It is interesting to note that from 1975 onwards, the World Bank devoted more of its resources to post-secondary vocational education than to secondary-level vocational education, suggesting a preference for provision of vocational education at a later stage.

In many countries, the difficulties experienced by those finishing technical education have shown that this form of education is not necessarily an answer to the problem of finding young people a place in the labour market. Although initial vocational training may sometimes 'reshuffle the cards' and give a comparative edge to those with qualifications, it does not create employment.

This absence of dramatic results has contributed over the last ten years or so to considerable doubts being expressed about this form of education, particularly since its costs are substantial, often being several times greater than those of general education, and 153% more on average for developing countries as a whole (Middleton, Zideman & Van Adams, 1993). Consideration of the cost-benefit ratio has led many economists to decry the low returns on investments made in technical education, and they have recommended that efforts be concentrated on basic education (Metcalf, 1985; Psacharopoulos & Loxley, 1985).

One of the outcomes of this debate on the effectiveness and efficiency of education has been a turnaround in the position of the World Bank. Its general policy document on technical education and vocational training (1992) contains in particular the following conclusion: 'Training given by the private sector, either within companies themselves or in private training establishments, may be the most effective and efficient way to develop the qualifications of the workforce' (p. 7). Since then, the share of secondary technical education in loans granted by the Bank to the educational sector has dwindled to low levels (6% over the period 1993-98). In point of fact, however, this decrease goes back to the 1980s, and practice has thus largely run ahead of theory. The Bank's position has not been without an impact on the attitude of other fund-providers, particularly the bilateral co-operation agencies.

It is instructive to compare this position with the way in which governments have responded. Despite the severe criticism levelled at technical and vocational education, they have continued to stand up for it, and still entrust it with difficult and often contradictory roles. It is often expected to make a simultaneous contribution to the development of the level of education in the working population, to the establishment of young people in careers, and to looking after the interests of disadvan-

tagged elements of the school population. One of the biggest challenges everywhere is to reconcile the imperatives of economic effectiveness with social considerations.

The objections mentioned earlier are directed mainly at developing countries, especially the poorer ones. However, technical and vocational education is not exempt from criticism in the advanced economies either. On the contrary, in most industrialized nations, this form of education is suffering from a crisis of identity and purpose (OECD, 1994). This malaise derives in part from a contradiction between the largely negative image of technical and vocational education and the strategic role assigned to it in the race to be internationally competitive. Over the last decade, the technical and vocational education systems in the most developed countries (Australia, France, New Zealand, the United Kingdom, the United States, etc.) have thus undergone thorough reforms.

Generally speaking, it must be acknowledged that there is a great gulf between the prevalent economic discourse at the international level, which is highly critical of technical and vocational education, and educational policy, which in many countries continues to assign an important role to it. It is impossible to demonstrate any general trend of diminution in the relative importance of technical and vocational education at the secondary level.

A fully fledged component of education systems

Technical and vocational education is first and foremost one way among others of achieving general educational goals. This fundamental mission explains why this type of education, despite its vocational orientation, is generally provided within the education system, and overseen by the ministry responsible for education. Very often, the emergence of this particular form of education corresponds historically with a period of strong growth in requirements for a skilled workforce, especially during phases of industrialization or reconstruction, or after a country has gained independence.

The importance of technical and vocational education varies considerably from country to country, as well as between different regions within a country. This variety is largely due to historical and socio-cultural factors. Also, it may be supposed that it reflects differing policies as regards the development of education and of vocational training.

The fact that secondary-level technical education is marginal or even non-existent in some countries does not mean that there is no system for giving young people job training. There are many different situations and conditions for preparing young people for employment. For example, most Latin American countries have established an autonomous vocational training system on the fringes of the main education system. Others such as Germany and Austria have broadly relied on dual apprenticeship. Finally, others still have left it up to the goodwill of companies—as was the case, for example, in the United Kingdom until the early 1980s—or have deferred vocational training to the post-secondary level, as is the case in the United States.

Examination of the proportion of pupils at secondary level pursuing a technical and vocational path reveals these differences clearly (Table 1). The data available for 1996 show that around the world, technical and vocational education accounted for 13% of pupils in secondary education, but that there were marked contrasts between regions. In Latin America and Europe, technical and vocational education occupies the most important place, with about 26% of secondary-level pupils. Then there are the Arab and Far Eastern countries, where it represents 15% and 14% respectively. Finally, there is a third category consisting of regions where technical education is relatively speaking much less developed, with 5% in Sub-Saharan Africa and under 2% in South Asia.

TABLE 1. The proportion of secondary-level pupils in vocational and technical education by region and by category of country

	1960	1970	1980	1990	1996	Average 1960-96	Average 1980-96
Sub-Saharan Africa	15.4	10.7	6.4	5.8	5.3	8.72	5.83
Arab countries	17.0	11.1	10.7	12.0	15.3	13.22	12.67
Far East and Oceania			4.1	11.5	13.6	9.73	9.73
South Asia			1.7	1.7	1.5	1.63	1.63
Latin America and the Caribbean	24.0	22.4	24.1	23.4	26.3	24.04	24.60
Europe	24.3	26.4	24.6	25.6	26.7	25.52	25.63
World	13.8	14.6	10.5	12.0	13.0	12.78	11.83
Developing countries	9.8	9.1	6.7	9.5	10.6	9.14	8.93
Less advanced countries			4.2	5.3	5.1	4.87	4.87
Developed countries	15.7	19.1	16.2	17.0	18.5	17.30	17.23

Source: UNESCO, 1998.

Analysis by category of country according to levels of revenue shows that technical education occupies the most significant place in the developed economies, with more than 18% of secondary-level pupils in 1996. The share is around 9% in the developing countries, and slightly under 5% in the less developed countries. This picture suggests that there is a positive correlation between the level of an economy's development and the relative importance attached to technical education. Statistical analysis in this case appears to confirm what common sense would suggest, namely that all else being equal, it is the advanced economies that experience the greatest need for a qualified workforce, and that have the means to take advantage of a type of education which is by nature costly. However, this conclusion must be modified, since some of the most advanced countries, such as the United States and Japan, do not traditionally attribute much importance to technical education (nor did the United Kingdom attach much importance for a long time). As a result, it is not possible to establish a statistical link between the importance of technical

education at the secondary level and the level of development as measured by GDP per capita.

It is equally instructive to trace developments over a long period (Table 1). Firstly, for all countries the role of technical education was stable at around 13% between 1960 and 1996, but displayed a fairly low fluctuation margin during that period. The only recorded decline was in the 1970s; on the other hand, there was an overall upward trend during the 1980s and since that time. These data seem to indicate large-scale inertia in the structure of secondary education. Analysis by region throws more light on the situation. As the statistical progressions are not stable for the whole period, which means there is a danger of the real situation being distorted, we will look in particular at the period 1980–96.

During this period, the share of secondary-level pupils in technical education increased in all regions except South Asia, where a slight decline may be detected, and Sub-Saharan Africa, where the decrease is clearer. The most obvious increase is that recorded in the Far East, where the share of technical education more than tripled in three years. Analysis by category of country reveals that the progression of technical education was most pronounced in developing countries other than the least developed countries.

Beyond the analysis of the structural evolution of secondary education, the relative numbers of young people in vocational education is a function of the rate of secondary-school attendance (Table 2). If this additional factor is taken into account, three categories of regions may be distinguished: (i) regions where technical education is fairly marginal: this is the case in Sub-Saharan Africa and South Asia, which have both a low rate of secondary-school attendance (less than 50%) and less developed rates of vocational education (less than 6%); (ii) regions where the incidence of technical education is moderately significant: the Arab States and the Far East, where the basic rates of secondary-school attendance border on 50%, and where the proportion of technical education hovers around 14–15%; and (iii) regions characterized by significant levels of technical and vocational education: Latin America, where the rate of school attendance is comparable with that of the Arab countries, but where over a quarter of secondary-level pupils are in technical education, and Europe, which has both a high level of development and a relatively vocationalized secondary-education structure that accounts for over a quarter of pupils.

Ultimately, the picture presented by these data seems to be little affected by fashion or by the criticisms that have been levelled at technical education. The extent to which it is developed seems rather to be determined by a complex equation involving the weight of tradition, the level of development of secondary education and the available resources. Obviously, examination of specific cases would turn up situations that vary somewhat, and on occasion more abrupt and rapid transformations in one direction or another.

This rapid survey of the relative importance of technical and vocational education around the world on the basis of statistical indicators fails to take account of the profound transformations that it has had to make to a greater or lesser extent, depending on the country, in order to adapt to changes in employment and work.

TABLE 2. Overall rates of enrolment in secondary education, by region and by category of country

	1960	1970	1980	1990	1996
Sub-Saharan Africa	3.1	7.2	17.1	21.7	25.2
Arab countries	10.4	21.3	38.4	51.7	55.7
Far East and Oceania			43.9	47.9	64.6
South Asia			27.6	40.1	45.0
Latin America and the Caribbean	11.7	20.2	44.6	51.2	57.2
Europe	45.4	64.0	87.1	92.0	99.2
World	26.2	35.3	46.4	51.8	58.9
Developing countries	13.3	22.3	35.2	42.3	50.4
Least developed countries			14.7	17.5	18.8
Developed countries	49.5	61.2	89.5	93.6	100.3

Source: UNESCO, 1998.

Technical education in the face of transformations in work

Profound transformations in work may be discerned all over the world today. These developments have given rise to numerous debates, and some observers have gone so far as to predict the end of work (Rifkin & Heilbrunner, 1995). The harshest shock has probably been that experienced by economies in a transitional phase in the post-socialist era, both those of the countries of Central Europe and those that emerged from the collapse of the Soviet bloc. For these countries, the system of guaranteed full employment has suddenly given way to job insecurity and the phenomenon of unemployment.

In the advanced industrial economies, especially in Western Europe, unemployment, instability and, increasingly, social exclusion seem to be permanent features of the economic and social landscape. The economy has entered a lengthy cycle of slow growth, and in some cases it is as though the production machine could dispense with the services of a certain portion of the population that is of working age but has become surplus to requirements and economically useless (Forrester, 1995).

In the less developed economies, the prospect of employment in the modern sector, which at one time was synonymous with social advancement, has vanished for most people. The informal sector, once considered to represent a brake on development, has confirmed its role as the long-term guarantor of socio-economic balances that remain precarious. Until recently, the performances of some of the economies of North- and South-East Asia had given rise to great hopes, and seemed to be blazing a trail of economic development and social progress. The Asian crisis has tarnished this prospect somewhat. The problems encountered by certain of the 'tigers' demonstrate the fragility of the Asian 'miracle', and the reversibility of cer-

tain achievements, notably in the areas of employment, poverty and education. Moreover, the emerging economies of Latin America are unable to provide a counter-example. Although the modernization and the performance of their economies are undeniable, these achievements remain vulnerable and, from the point of view of employment and poverty, the situation there is still worrying.

What manifests itself in many countries as a transformation in the organization of production and of society has serious implications for education, and especially for technical and vocational education, whose mission is directly defined with reference to work. In the most developed countries, the transfer of the workforce of large enterprises to small and medium-sized companies and the transfer of industry towards services are significant trends. The service industries now provide work to most of the active working population in these countries. Another sign of the emergence of the tertiary sector in the advanced economies is that non-manual jobs are in the majority, and are rapidly increasing. Finally, it is important to underline the fact that, despite talk about the emergence of a leisure society, work remains a privileged locus of socialization offering the opportunity to relate to others and to the community.

But the issue is not just a quantitative one: changes in work have also modified the very nature of employment. Behind this movement lie new forms of organizing production and work. The end of Taylorism and the emergence of flexible specialization reveal the two-fold transformation of work, affecting both form and content. As well as having a well-known reductive effect on the volume of employment, technical progress and task automation have made great flexibility of work possible. The idea of flexibility of work expresses two complementary realities. In the first place, it refers to the flexibility of equipment, multiple skills and the rotation of personnel, and the politics of quality and of management of strongly fluctuating demand. But this internal or functional flexibility goes hand in hand with another form of flexibility, known as external flexibility, which expresses the fragmentation of the labour market, the diversification of workers' legal statuses, accelerated mobility, the relaxing of recruitment and redundancy rules, and flexibility in the duration of work. In other words, internal flexibility changes the content of work and consequently calls for new qualifications.

The quest by employers for greater autonomy, initiative, responsibility and communication corresponds to the criterion of internal flexibility. As regards education, this means more extensive general training, including for those with vocational diplomas. The requirement for versatility and adaptability also works in favour of more advanced and more extensive qualifications. Furthermore, the automation of industrial processes as a result of the introduction of robots and the use of digital control equipment and computerized production has modified the nature of the vocational qualifications required. As a result of the horizontal integration of tasks, these new modes of production involve, *inter alia*, operators more in quality control, which requires them to acquire new skills.

New workforce management practices have thus restructured the labour markets. Internal markets—a source of stability—have dwindled to the benefit of the

secondary markets, which promote the principle of flexibility. The labour market in the most advanced economies thus seems to be organized around two principal focuses: one which values a privileged but increasingly rare category of multi-skilled, stable workers, and the other inhabited by an expanding myriad of insecurely employed flexible workers. Added to these categories is that of 'controlled flexibility', within which workers, who are generally highly qualified, are able to build a career that combines successive jobs in different companies and professions, and, in some cases, periods of self-employment. Though still at an embryonic stage, this pattern could be a highly influential one in the most advanced economies. In this context, one must ask at what sector of the population technical education is aimed. Can one conceive of training that is simultaneously intended for groups with such differing needs? The answer to these questions remains uncertain.

In the less developed economies, where access to a stable, salaried job has always been the privilege of a minority, individual careers are more than ever following circuitous routes that take in numerous different situations: insecure salaried work, self-employment, unemployment, under-employment in the formal sector, work in the informal sector. This fate, which in the past had been reserved for the less highly educated part of the working population, is now shared by a growing number of increasingly highly trained workers, in particular those with secondary educational qualifications, including technical and vocational ones.

To some extent, we may consider that the world-wide proliferation of instability and job insecurity is creating the conditions for an increase in the level of general training and a broadening of qualifications, so as to ensure the adaptability of the workforce and its necessary re-qualification in an educational context throughout life. Moreover, the great flexibility of the workforce and its supposed mobility between different sectors of the labour market make it very difficult to identify the skills needed to construct training syllabi for particular professions. After all, it is unlikely that production and work will be organized in the same way in a small business as in a multinational firm.

Moreover, globalization spells a new distribution of activities and hence of qualifications at the global level. The dynamic of the international division of work means that the more advanced economies are specializing in activities that require little labour, and transferring the other industries to countries where labour costs are lower. The repercussions of this strategy can already be clearly seen in the more industrialized countries, where relatively unskilled workers, especially the young, are suffering the effects of high rates of unemployment—when they are not excluded altogether from the labour market.

The organization of vocational training for young people has long been schematically characterized by means of basic models, which are supposed to describe the German system (a preponderance of dual apprenticeship in the context of a vocational labour market), the Japanese system (training in the company in the context of lifelong employment) and the French system (training at school, relative richness of the internal labour markets). It should be recalled that the existence of a system preparing young people for professions has not always been the rule, even in the

most industrialized economies. In this connection, the case of the United Kingdom symbolized until the early 1980s a sort of counter-example, with vocational training mainly being provided on the job at employers' discretion. Globalization is probably gradually bringing about a reframing of these basic models.

The turbulence of the economic environment and the running out of steam of the advanced industrial economies in a context of over-abundant qualifications have tended to call into question both the internal labour markets and the willingness of employers to invest in training (Büchtemann & Soloff, 1998). In Germany, the employers' desire to spend less on training, coupled with the new preference of young people for higher education, is already causing a rethink of the traditional dual apprenticeship model. Meanwhile, Japan has entered a period of recession, and the ensuing movement to slim down company workforces is threatening the survival of the lifelong employment model. If these trends continue, they will place increasing pressure on education systems to ensure that they continue to provide, or depending on the country, make more provision for the initial training of young people.

Reforms underway

During the 1980s, the systems of technical and vocational education in Africa and South Asia seemed particularly extravagant to the ministries financing them and to the financing agencies. Worse, they could not point to any clear return on the investments made in them, or to any contribution to the community. In many cases, the numbers of those working in vocational education were reduced. In addition to these reductions, reforms have had to be made, particularly at the management level, to enable them to open up to the continuous training market or to lend assistance to the informal sector.

In the Latin American countries, the change of development model—with countries going from internal-market-oriented economies (a development model aimed at substituting domestic products for imported goods) to economies that are open to the outside world—has compelled countries to take a fresh look at their management mechanisms and the content of their technical and vocational education. They find themselves in a world that is increasingly open and competitive, and this has led them, as it has led the emerging Asian countries, to pursue reforms in the context of a general revision of secondary education.

For their part, the developed countries are undertaking a broad revision of their system of technical and vocational education in order to respond to the changes in the labour market described earlier. Only a few people have called into question the importance of technical and vocational education in schools. The reforms are aimed at raising the level of pupils' general education while at the same time making education more suited to the needs of companies and more flexible, following the example of what is happening in the labour market.

In the developing countries, the vocational nature of secondary education and its diversification have been the subject of wide debate. As we saw earlier, technical

and vocational education has nonetheless remained important in most regions, and there are probably several reasons for this. The first is that many countries are attempting to increase the commitment of young people aged between 12 and 18 to secondary education. The diversification of syllabus contents, approaches and methods is thus essential in that it is desirable to attract the interest of young people from highly varied socio-economic backgrounds. A second reason, linked to the first one, is that because of setbacks and repeated years, pupils in the secondary system are often over 18 years of age. If they are expected to complete their secondary studies before they are taught a trade and given a taste for performing a manual job well, it may be too late: it is likely that their own ambitions will be quite different. A third reason is that vocational and technical education, which is practical by nature and uses an inductive approach proceeding from physical observation to theory and abstract concepts, is one which seems better suited to pupils who do not do well in academic disciplines. Thus in many countries it is given the social task of taking on struggling pupils.

A final reason, one that is perhaps more open to debate, is that there is a firmly held belief on the part both of families and of governments that young people should not leave the formal school system without receiving a recognized vocational qualification. Demand for practical options and vocational courses remains strong among pupils who do not or cannot envisage going on to higher education.

While preserving technical and vocational education in the school environment, the developed countries should nonetheless reform it to make it more flexible, of a higher quality and capable of responding better and more quickly to the needs of the labour market, while costing less, especially for the State. Many countries are adopting reforms that are more or less directly inspired by those undertaken in the developed countries. They may be divided into four areas: structural reforms; the overhaul of syllabus contents and revision of methods of awarding diplomas; the reform of methods of financing; and the transformation of the management of systems and establishments. There have been significant difficulties in implementing some of these reforms in the developing countries, and also in the developed countries. In the former, they are therefore in many cases still at the outline or drawing-board stage and remain subject to negotiation.

STRUCTURAL REFORMS

In some countries, the focus on vocational and technical education started at the end of primary education: it involved giving young people a four- or five-year period of training in relatively highly skilled and very specialized jobs. With the raising of the school-leaving age and the extension of basic education to a period of eight or nine years, specialization and specific orientation have tended to be postponed until the end of the first stage of secondary education. In most cases the emphasis is placed during that first stage, which is common to all pupils, on consolidating basic knowledge of reading, writing, foreign languages, mathematics and sciences. Many countries have found it impossible to completely eliminate parallel paths—

for example, Germany and the other German-speaking countries, the Netherlands and some countries in French-speaking Africa and Latin America—but schools increasingly offer the same basic programme.

In most OECD countries where there are parallel paths aimed at training technicians (technology paths) and others aimed at training workers or skilled white-collar workers (vocational paths), the former have developed faster in numerical terms than the latter. This is another trend towards the raising of educational standards (OECD, 1998).

Finally, post-secondary technical educational paths are developing very rapidly in all countries. They are already significant in the United States, where technical training has traditionally been provided in community colleges—the so-called junior colleges—and they are gaining in acceptance elsewhere. In France, pupil numbers in the short-duration higher education system (post-secondary technical education) more than doubled between 1980 and 1992; they are also growing very fast in Germany and Australia. In Brazil, federal technical schools, which are well equipped and provide a high-quality education, have been closed down as secondary technical schools and are now recruiting at the post-secondary level. In Hong Kong (China), the Republic of Korea and Singapore, post-secondary technical training has grown in importance as the latter have encouraged production in key sectors such as services, the computer industries and advanced technology. Since 1990, 43% of the relevant age group in Singapore have enrolled in post-secondary technical training (Kivela, 1995).

The raising of educational standards is due to an orientation towards higher-performance, more advanced industries, as we have just seen in the case of Singapore. Numerous studies have shown that workers/technicians employed in industries integrating information technology need to understand the whole production process and to have an overall vision of the company: they must be able to take initiatives to adapt the production process to fluctuating demand or take suitable steps in the event of problems. Finally, in a fast-changing world, it is not enough to prepare young people for a specific occupation; they now have to be prepared for the numerous job changes that they can expect in the course of their lives.

The concern is the same in Europe, South Africa or Asia: general education and vocational education have to be combined to create a proper education for skilled workers. Young people must be taught how to learn, and how to develop their powers of analysis and synthesis; and certain values and types of behaviour have to be promoted: 'Work and citizenship, competence and conscience are inseparable from one another: they call for integrated development in individuals' (Monteiro Leite, 1996). It is also a question of imparting to technical and vocational education an 'equality of esteem'.

Some reforms cast doubt on the place of technical education as a separate course pursued within general education, without questioning the need to develop vocational skills in the secondary educational context. These reforms include those underway in Scotland and in Argentina, which are similar to those planned in South Africa. Vocational education and general education have been provided in the same

establishments in Sweden since the reform in 1994, within the scope of a modular education.

The objective of the reform of secondary education in Scotland is to introduce a versatile form of education into the compulsory-attendance schools. At the age of 16, this now feeds into either higher-secondary education or complementary vocational education. Within compulsory education and higher-secondary education, vocational training modules are offered as options to pupils. The idea is to teach them to become independent while preparing them to fulfil various different functions in a fast-changing world. The Scottish Council of Vocational Education (SCOTVEC), which administers examinations and awards national certificates, has noted the success of the modular courses and exercises a great deal of influence on the syllabus. These courses attract more students than the complementary education colleges. Furthermore, great efforts are made to bring schools closer to private enterprise. In order to prepare young people for working life, work experience opportunities are offered to young people aged between 14 and 18, and they can receive assistance with developing their vocational projects.

The reform in Argentina aims to replace technical secondary education with a 'polymodal' education following a three-year common phase. During the second stage of secondary education, establishments will offer various options in the following areas under one and the same roof: literature and social sciences, economics and organizational management, natural sciences, production of goods and services, communication, art and design. The teaching of science and technology is considered to be a decisive element in the process of finding skilled work, and preparation for work is not the exclusive prerogative of any one modality in particular: all should offer it. The vocational aspect of each modality occupies nearly 30% of the time, to which is also added the institutional component. Training for specific jobs will be provided within technical-vocational courses; these will be structured together with 'polymodal' education, and may be organized to complement it in the afternoons or to come after it. The contents and number of technical-vocational courses are still being worked out.

Reform of educational content and approaches

Reduction in the number of specializations offered and integration of general and technical education. In many countries, syllabus contents are currently under revision in close collaboration with representatives from companies. The trend, without necessarily going as far as in Argentina, is to categorize programmes by occupation group. In France, for example, there are three main routes within technical education (industrial sciences and technology, laboratory sciences and technology, tertiary sciences and technology) and each pupil may use options to create a more specialized programme. In terms of weight of timetable demands, the technical and vocational disciplines represent around 16% of teaching hours, coming in second place behind the scientific disciplines. In vocational education, the number of CAPs (*certificats d'aptitude professionnelle*—vocational training certificates) was cut from

315 to 214 between 1983 and 1993. The number of BEPs (*brevets d'études professionnelles*—technical school certificates) went from seventy-six to fifty-three during the same period, and forty-eight specializations are offered in the vocational high school diplomas—a somewhat reduced number, but one that is still relatively high. These diplomas have democratized secondary education, extending it to nearly 70% of those in the age group concerned.

The aim of these reforms is to reduce the clear gap between general education and technical and vocational education, and between initial education and post-school training. They also aim to create bridges between them and make it easier to construct individual educational paths throughout life. This latter concern, which is often declared to be an aim of reforms, is a credible one only to the extent that there is a coherent system for the recognition of skills and qualifications. This is something to which we shall return later.

The raising of the standard of education and the 'generalization' of technical and vocational education are not without problems as regards direct preparation for employment. Numerous companies still require specialized training. In this regard, the raising of the standard of basic scientific and technical training represents a choice that is consistent with giving priority to technologically advanced companies with positioning in and making sales to the global market, rather than more traditional ones working for a local or domestic market. It also has the effect of prioritizing training for life as a whole rather than for gaining immediate entry into the world of work, and young people are not prepared for specific jobs when they leave school.

To avoid this dilemma, more and more reforms seek to strengthen the links with the world of work by means of apprenticeship or 'sandwich courses'. It is expected that companies will be responsible for preparing people for specific jobs: these courses are an integral part of the training and are necessary for graduation.

Reinforcing practical training and drawing closer to the world of work: apprenticeship and sandwich courses. Employers often complain that technical and vocational training in the school environment is not practical enough, and that young people with this kind of training are not immediately 'operational'. The German dual model, which combines theoretical training in vocational schools with training on the job supervised by an apprenticeship teacher, is often cited as the best example of successful practical training. It is said to be the model which makes it easiest to transfer all of the skills needed for a job, i.e. a specific form of skilled work. On the other hand, it is alleged that it does not provide sufficient preparation for the new technologies. To combat these criticisms, the theoretical training in vocational schools has been strengthened in this area; moreover, an increasing number of pupils expect to have completed their school-leaving certificate before looking for an apprenticeship.

In order to reinforce practical training, most European countries as well as numerous Asian countries (e.g. Singapore and Indonesia) and Latin American countries have made an effort to introduce or strengthen apprenticeship—in all sectors

in some cases, and in other cases only in some sectors. The propagation of such a model in countries which do not have the same cultural traditions as the Germanic countries is not straightforward, however. Outside these countries, apprenticeship seems to be confined to a certain number of sectors: building and construction, mechanics, printing, electrical engineering in industry, hotel management, repair work and shopkeeping in services, and traditional skilled work or crafts. The prospects for development of this type of training, which is generally absent in high-technology sectors or those experiencing rapid growth, appear somewhat limited. This is not the case with sandwich courses, which are easier to organize and less costly to the company because they are not as long. In France, pupils must spend up to sixteen weeks in a company in order to obtain their vocational school-leaving certificate. Sandwich courses nowadays relate to all kinds of training, even at the higher level: some engineering qualifications may be obtained in this way (Grefte, 1997).

Moreover, numerous studies have shown that apprenticeship can make it easier to find skilled work, and smooth the transition between school and company. Apprenticeship thus becomes a priority mode of training for pupils who do not perform well academically, and many vocational training programmes for such pupils have drawn upon the concept.

From course contents to skills. The major change in the development of curricula is the fact that there is less emphasis on course contents and more emphasis on skills that need to be acquired and mastered in order to get a job. These skills are defined in close collaboration with employers; they help define the objectives to be achieved—the overall knowledge, technical skills and attitudes that need to be acquired in order to obtain a qualification—and the basic standards of training. Itemized in this way, skills may be grouped into several large categories: basic and fundamental skills, specific vocational skills (the knowledge and abilities required in order to perform the various tasks associated with a job), social skills (such as teamwork), methodological skills (such as the ability to understand, and to apply new concepts to practice or to different contexts), the ability to reflect and think critically, etc. The common skills associated with categories of jobs are identified and integrated into the ‘common phase’, and become learning objectives to be achieved in the different years of school. They are supplemented by more specialized optional modules which are taught as an extra or in parallel (CEDEFOP, 1998). An essential quality of these skills is that they may be measured and assessed in order to make up a series of qualifications.

Review of how diplomas are awarded

The technical and vocational education systems in most countries include different types of training, from initial scholastic training, which itself may be organized by different ministries or by the private sector, through to vocational training in centres or specialized institutes, training in the course of employment and continuing

training. Coherence between these different modalities is far from being achieved. What is more, the skills acquired in these different situations by individuals are only rarely recognized outside the system in which they were produced. Numerous countries are in the course of constructing consistent frameworks for the recognition of qualifications, enabling individuals to assert the validity of the skills they have acquired and to use them as bargaining counters in different countries and different regions. This is something that adds to their mobility and enables them to construct lifelong training routes (Bertrand, 1997). From the point of view of the State, which defines skills standards, these frameworks have the advantage that they can affect the content of training courses offered in different institutes, schools and centres. Also, they make it possible to monitor quality. Australia was one of the first countries to develop skills standards and to integrate them into logical groups arranged on eight nationally recognized qualification levels. South Africa has likewise developed a national qualification framework. Another interesting example is Mexico. It has a great variety of possibilities for technical and vocational training at secondary and post-secondary levels, run by various public and private operators, including various departments of the Federal Ministry of National Education, the states, the universities, and so on. The qualifications framework developed by the Ministry of Labour is intended principally to make these training courses more transparent, but also to influence the course content offered in the different institutions and to modernize it.

Such mechanisms are being devised particularly in countries where training is decentralized or even fragmented among a great variety of public and private training providers.

The diversification of financing

Privatization of the financing of training. Owing to the lack of state funds, diversification of financing sources for technical and vocational education has become inevitable in many developing countries. If this form of education is particularly costly, and where it makes productivity improvements possible from which pupils or the companies that employ them stand to benefit directly, it seems fair to pass the cost directly on to the pupils or their families, or to the companies.

Private education run by the private sector with private funds has grown up in many developing countries, and also in the developed countries. However, it plays a major role only in tertiary training (services and commerce), particularly in training in new information technologies. The private sector seizes opportunities as they arise more rapidly than the public sector. But because of the costs of training, it remains virtually absent from training in heavy industry, which requires investment in workshops and in large equipment. The one possible exception here is schools run by companies, and sometimes organized in conjunction with other companies, such as the SENAI technical schools in Brazil or those run by 'corporations' in Chile.

Industrial training is largely financed by the State, whether directly by general taxation, or by means of an education tax levied on companies if they do not offer

training directly themselves, and equivalent to a certain percentage of their overall wage bill.

Other forms of financing diversification have appeared: the introduction of school fees in public establishments, the decentralized management of establishments, which become the financial responsibility of regions or municipalities, and the sale of products and services.

The Chinese technical schools have highly diversified resources, especially those situated in industrial areas of the country if they are run by a dynamic head of establishment. Some are directly attached to a company and sell products that the pupils have made; in addition, they receive school fees, which in some cases are very high; and they also sell a whole series of services, including the renting out of their own premises. Also, they receive donations from companies and from private individuals. This mode of financing, which is not specific to technical education, has enabled it to grow rapidly, but it entails huge inequalities between establishments, regions and social classes. Numerous technical schools in the countries of the former USSR have owed their survival to such modes of financing, and especially to the sale of items produced by the schools. However, this does not seem to be to the benefit of the quality of training, as production activities often take up too much time in comparison with training activities, and as the products and services sold are not always of a sufficiently high quality—far from it, in fact (Caillods, Bertrand & Atchoarena, 1995; Moura Castro et al., 1997).

Similarly, efforts have been made in French-speaking Africa—with qualified success—to encourage heads of establishments to sell their services (rather than their production) and obtain the funds they lack: providing technical assistance to small and medium-sized companies; training entrepreneurs in the informal sector; providing continuous training courses; and positioning themselves in the continuous training market (Atchoarena, 1996). For these establishments to be capable of seizing such opportunities, the way the system is managed has to be changed, more autonomy has to be given to heads of establishments, and their behaviour has to be transformed.

Management reform

Decentralization of management and autonomy for establishments. A process of decentralization at the regional and institutional levels is underway in a great many OECD countries, as well as in Latin America. Its aim is to ensure that more decisions are made on the spot at regional and local levels, where companies' needs can be assessed more easily, where school-leavers are entering the job market and where dialogue and negotiation with the social partners are easier to organize. The movement towards the decentralization of technical and vocational education belongs together with that of education as a whole, driven by the evolution of the political context towards democracy and by the strong desire in many countries for greater participation.

The countries of Central and Eastern Europe have experienced decentraliza-

tion of this kind, sometimes driven by simple financial considerations: as the State is no longer in a position to finance technical and vocational schools, it devolves the responsibility for this to other levels. In Hungary, the elected local authorities are now broadly responsible for managing the technical and vocational schools: they have the power to open or close schools, to appoint teachers and even to modify syllabus contents. This has become a powerful instrument in the evolution of the system and the institutions (Lannert in Caillods, Bertrand & Atchoarena, 1995).

Moreover, many reforms have been undertaken which aim to increase the autonomy of establishments. Here, the point is to turn the directors of individual institutions into genuine managers, capable of mobilizing resources, of talking with companies to identify their training needs, of arranging work experience for students, and of forming new relations with the local community. The technical and vocational schools are developing new functions, and establishments are finding that a new role is being added to their traditional one of education: that of job-finding, which the head of establishment and all his or her teaching staff must conduct.

The reform of technical and vocational education in the Netherlands features a significant component of modernization of the management of establishments. These are now endowed with greater autonomy. They have a budget which they manage autonomously. In return, they are responsible for the results and the quality of their training. In order to increase the flexibility and relevance of the training they provide, and at the same time to reduce training costs, teachers are permitted to work half-time in an establishment, and to hold a job in the private sector in parallel.

The privatization of education in Chile is basically a privatization of the management of schools. The State no longer runs any establishments directly: they are run by the municipalities or by the private sector, with or without state support. A large number of establishments are also run directly by professional non-profit associations (private 'corporations'). They receive a state grant commensurate with the number of pupils they have. They also receive company donations. Tax incentives have been introduced to encourage companies to finance all establishments directly, and this is basically to the advantage of establishments run by these associations. The reform emphasizes the autonomy of establishments, which have the power to select their own teachers and management personnel. They have broad freedom when it comes to developing their projects and programmes, and this occurs in collaboration with parties at a local level. Their autonomy means that they can make contracts with local companies. These schools, which tend to take in disadvantaged youngsters, are considered to be well managed and of a high quality (although they cost nearly twice as much as municipal schools, including the cost borne by the State). The high rate of job-finding success among former pupils is largely responsible for their popularity with families (Corporación educacional de la SNA, 1995).

A similar reform aimed at giving public establishments new dynamism is underway in South Africa. Results are slow in coming, however. The process of implementing reforms on the basis of negotiations is a lengthy one, and is also faced with a series of institutional obstacles.

The decentralization of the management of technical education and its devolution to the private sector must not have the effect of removing the State's regulatory role. Although the autonomy of schools and their management at the local level has made it possible to increase the system's flexibility and its capacity to respond rapidly to the changing needs of the labour market, the State must retain a medium-term vision to ensure that this form of education evolves in such a way as to satisfy the needs of the economy. It also has a role in ensuring the development of skills, defining the overall consistency of qualifications, training the trainers, monitoring quality and developing a system of information about both the quality of training given and what happens to school-leavers. Mobilizing and involving participants and negotiating changes imply working in partnership.

The search for partnership. Given the lack of available resources for technical and vocational education, and given the magnitude of the task to be accomplished if the problems of young people's unemployment and poverty are to be resolved, the management of technical and vocational education systems involves an increasing number of participants. Most countries recognize the need to share responsibility for running and financing between the ministry of education and participants from the world of work. Companies are directly affected by the products of vocational technical education; accordingly, they are involved in the choice of qualifications to be dispensed and in the ways of acquiring and certifying them. Moreover, their contribution to training is increasingly direct, by means of apprenticeship or the organization of work experience courses, and they contribute to its financing. Other participants include local government and various federations of educational authorities. These participants are brought together in various institutions such as 'training councils' that exist at local and regional levels in various countries.

Conclusion

As the developments described here show, technical and vocational education in many countries is at a crossroads between a rapidly expanding secondary-education system and a fast-changing labour market. Far from disappearing, it is showing its determination to transform and modernize itself so as to meet the needs of the labour market better. At the same time, it refuses to forget its social role in the education and integration of pupils who may be disadvantaged. Numerous reforms are in progress, although many are still only at the drawing-board stage. These relate to the structure, course content, qualifications and mode of governance. The structural reforms are perhaps the easiest of all to implement. The curricular reforms, on the other hand, need time and money to introduce. Many years are needed in order to specify the skills required, to define qualifications and to work out new systems of reference for training. The same goes for defining qualifications. The process is all the longer inasmuch as it has to be conducted in close collaboration with users, companies, communities and unions. But its long duration is crucial for its future success, its acceptance by all sides and its adoption by the various parties involved.

Reforms in the mode of governance are also long and difficult to introduce. The participants on the ground generally remain the same, and numerous training programmes are needed before heads of establishments and teachers change their everyday practices. At the central, regional and local levels, the political and economic stakes are high, and resistance to change comes in various forms. In the face of various pressures, there is a grave risk that these reforms will be evaluated and judged before they have been completely implemented.

It should not be forgotten that the performance of vocational education systems does not depend only on the quality of the training provided by educational establishments or of their management. It is also a function of the quality of the education system as a whole, including training centres and companies. Finally, it is hard to understand the relevance and the performance of technical and vocational education without taking account of the functioning of the labour market and company recruitment practices. In this regard, numerous points still require clarification. The effects of globalization on qualifications and their distribution on a worldwide scale, companies' human resources strategies, the inevitable weight of the informal sector in the less developed economies and the evolution of power relationships between key players are among the structural factors that will be decisive for future changes, but which are not easy to predict. The challenge is as great as the stakes are high. What is required from all participants, including the financing agencies, is unfailing commitment and long-term action.

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STRUCTURAL ADJUSTMENT

AND VOCATIONAL EDUCATION

IN THE REPUBLIC OF KOREA:

THE STRUGGLE BETWEEN

MARKETS AND

THE INSTITUTIONALIZED SYSTEM

Kioh Jeong

Introduction

Structural adjustment has been a very challenging topic over the past decade among education experts and policy-makers in industrialized countries. The globalizing economy and innovative technology necessitate a fundamental change in the work process and the organizational structures of business and enterprises. Education is not free from the tide of social change. In 1989, a statement by the Education Committee of the Organisation for Economic Co-operation and Development (OECD) placed priority on structural adjustment as an agenda for intensive education

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policy discussion. During the next five years, industrialized countries came to understand the inevitable link between the systemic change in education and structural change in the economy. Such complicated issues cannot be adequately dealt with in this short article. It is possible, however, to draw some lessons, which may be summarized as follows (OECD, 1989):

- Labour markets are changing, and flexible employment should be encouraged in order to accommodate technological progress and occupational changes;
- Education should prepare a flexible labour force and offer opportunities for and access to lifelong learning;
- The problem is not so much one of over-education, but rather the mismatch between the content of education and industrial demand;
- Policies and measures should be developed to make skills more visible and transferable in labour markets; and
- The partnership between social actors should be built with a view to making change effective.

Experts and policy-makers from the Republic of Korea (hereinafter in this article referred to as 'Korea' or, where appropriate, 'Korean') largely endorsed these views when they met with international experts at the Korea-OECD joint conference in May 1994. Informed experts and policy-makers in Korea were already seriously concerned about the human resource base of the Korean economy.

As a result of discussions held at that conference, it became clear to the Korean experts and policy-makers that the Korean economy was suffering from a serious shortage of relevant knowledge and skills. This was a major obstacle to achieving the necessary transition from developing country status to that of a mature industrialized economy.

Government initiatives from 1995 to 1997 for labour and education reform were substantially based on these discussions. The structural change in labour and education, and the weak knowledge and skills base hindering further socio-economic development formed the starting point of the discussions leading to the educational reform proposals (ERPs) by the Education Reform Commission (ERC). The proposals targeted the enhancement of the national skill level and suggested wide-ranging deregulation to increase flexibility in education and labour.

Part of the reform proposals had already been legislated for implementation, while the rest are still under close review for further government action. As was the case when the proposals were being drawn up, there are many points of conflict and disagreement among those involved. Economic constraints have a considerable influence on the policy process. Rapidly changing job markets and employment practices support the rationale for the reform. However, the increasing number of labour initiatives prompted by the crisis tend to blur the clear and consistent vision that is necessary for successful reform. Co-ordinated efforts and the building of a social partnership are the most immediate reform issues at this stage.

Reform is still ongoing, and therefore far from complete. Nobody knows when and where it will end. Vocational-education reform is, however, a *sine qua non* for the harmonious structural adjustment necessary for revitalizing the Korean econo-

my. This article includes some reflections and arguments regarding the critical issues of vocational-education reform in Korea.

The main observation is that there is a struggle in the system between market demand and institutionalized practices in education. The area of conflict shifts as the economy develops. At the front end of the system, vocational education is always dominated by market motives for change. It conflicts, however, with the institutionalized rules and ideas that form the backbone of the education system. The nature of this process is a gradual evolution influenced by many factors, e.g. policy-makers' effectiveness and power, as well as cultural values and traditions.

Global expansion of markets and the development of technology are the fundamental source of structural change in contemporary economies. This is true of the Korean economy. Vocational education should be extremely responsive to such change. In Korea, vocational education now stands at the crossroads of change. It is time to re-orient the Korean education system from educational selection to human capital investment.

Vocational education in Korea: evolution and constraints

Until the beginning of the 1970s, vocational schools enjoyed elite status. This was natural because during the earlier period of modern education in Korea they were an important part of modernity, and only a relatively small number of selected students could attend them. Many of the leading higher-education institutions, both public and private, developed from the early vocational institutions. There were, however, still many vocational high schools which insisted on being a part of secondary education. They were deemed to be prestigious until 1970. At that time, only 28% of the upper-secondary-school age group could attend high schools, out of the 46% of students enrolled in vocational education (Korea Education Development Institute, 1997). Many graduates of those vocational high schools have become influential leaders in Korea today.

In retrospect, however, 100 years of modern vocational education in Korea have revealed the declining prestige and status of vocational education. Upper-secondary-school enrolment increased from 28% in 1970 to 91% in 1995—an amazing expansion of secondary education over such a short period of time. In the same period, however, enrolment in higher education, including junior colleges, increased almost eightfold: from 318,563 to 2,343,894. Despite such an increase, the proportion of students attending vocational schools was almost constant at around 40% of total upper-secondary-school enrolment. In 1995, it was 41.9%.

Such a stable figure in secondary vocational education, particularly against the background of impressive higher-education expansion, was possible only through strong support from the government. Without the latter's intervention and support, the vocational high schools would have become redundant because of the social aspiration to higher education. The price paid for government intervention is, how-

ever, that vocational education has lost the prestige it once had. Indeed, it has become an educational stigma.

Rapid upper-secondary-education expansion and far stronger social demand for higher education, which vocational schools have survived, have many complicated aspects. Analysis of the figures for the rate of return, based on the type of school, clearly show what has happened over the past twenty-five years. The results of a few notable studies are summarized in Table 1.

TABLE 1. Results of rate-of-return studies, as a percentage

Year	Lower secondary	Upper secondary	Junior college	Four-year college and university	Remarks
1967	12.0	9.0		5.0	Cost/benefit analysis
1971	8.2	14.6		9.3	Cost/benefit analysis
1980	2.9	8.1		11.7	Cost/benefit analysis
1986		8.8		15.5	Cost/benefit analysis
1996		8.9	12.5	16.2	Wage function analysis

Source: Jang, 1999, p. 146.

It can easily be inferred from Table 1 that at least after the beginning of the 1980s vocational high schools could no longer be seen as a competitive institutional sector in the education system as a whole. Instead, enrolments in junior colleges increased sharply. In 1978, the government consolidated various tertiary vocational education programmes in an effort to launch the junior-college system with an initial enrolment of 114,948. After nearly twenty years, the number of junior-college students increased in 1997 to 724,741 in a total of 155 institutions. Junior colleges are already an alternative to universities. However, they are now facing problems in clarifying the educational objectives once differentiated from those of vocational high schools and also from those of universities. In particular, articulating the relationship between vocational high schools and junior colleges has presented both policy-makers and practitioners in those institutions with difficult tasks.

Interestingly, in Table 1 the rate of return for upper-secondary education remains constant at over 8% in contrast to the sharply declining rates for junior high schools. This possibly reflects not only continuing industrial demand for skilled high-school graduates, but also strong government support. Over the last twenty years, the government has rigorously maintained the policy of securing the skilled high-school graduate workforce by channelling as many students as possible into vocational high schools while providing, through public training centres, labour market training for academic high-school graduates or drop-outs seeking jobs. In spite of this strong government support, however, vocational high schools could not reverse the trend of slow decline. By 1990, the proportion of students enrolled in vocational high schools had decreased to 35.5%.

With parents increasingly wishing their children to proceed to higher education, the government enacted a law in 1990 requiring local education authorities to increase enrolment in vocational high schools to equal that of academic high schools. This halted the slow decline in enrolment figures in vocational high schools. Under this policy, strong emphasis was placed on supplying a workforce from vocational high schools to manufacturing industries that had already begun to lose their competitiveness. As a result, the proportion of enrolment in vocational high schools increased from 35.5% in 1990 to 42.2% in 1995.

The education community in general and some industrial policy experts continued to severely criticize the government policy underpinning the declining enrolment in vocational high schools. They argued that the government, by supplying cheap labour via vocational high schools, indirectly subsidized the industries that were being marginalized, and that in so doing it only delayed the necessary industrial adjustment suppressing individual development. In retrospect, the policy made some sense. In the midst of an economic crisis, however, the government paid heed to that argument and has begun to reconsider the role of vocational high schools while moving the bulk of vocational education from secondary education to junior colleges, as suggested by the ERP in 1996.

The prestige of vocational education at the upper-secondary level has decreased rapidly over the past twenty-five years. As a pillar of upper-secondary education, vocational education effectively served the rapidly developing economy during the initial stages of industrialization. Later, however, it became an educational stigma—merely a means of supplying manpower, and one which had an effect on declining competitiveness. Vocational education should now be reconsidered within the education system by redefining the linkages with academic high schools and post-secondary-education institutions (Kang, 1998, p. 246).

Labour market practices: prospects for vocational education

As stated in the previous section, it is time to launch a systemic reform to revitalize the vocational-education sector. The ERC took the first step to that end by issuing the ERP in 1996. The ERP 1996 was actually a package proposal drawn up with the Labour Reform Proposal (LRP 1996), which was released in the second half of the same year by the Labour Reform Commission, a body advising the President.

The aim of the two proposals was to promote structural adjustment in the economy. As summarized at the beginning of this article, the objectives of structural adjustment are to achieve a flexible labour market and flexible skills that can accommodate technological development and hence economic progress. The ERP and LRP were intended as mutually complementary reforms in education and labour to bring about lifelong skill development and create a flexible labour market.

As reported by the mass media, the LRP met with strong resistance from the unions in the legislative process. As a result, its projects were left incomplete, and were only partly successful. However, all the aims of the LRP were attained later,

when the Korean economy experienced an unprecedented crisis and unemployment. The labour protest against the LRP served only to postpone its complete implementation by just one year.

Reform always takes time. However, it may well be said that vocational-education reform will eventually be achieved thanks in part to the LRP's successful implementation, even though it was somewhat delayed. To fully understand this statement one must be aware of the close link between education and employment practices in Korea.

Employment practices in both the public and private sectors promoted the strong bias towards academic orientation in Korean education. During the period of rapid economic growth, skilled workers were always in short supply. As a result, the employers' main concern centred on maintaining an adequate supply of workers. Provided that they could obtain an adequate supply, employers were ready to recruit workers despite their qualifications, and then to train them. In this context, schools and institutions tended to focus more on educational selection than on skill formation as their responsibility. Preparation for work gradually became the responsibility of enterprises, individual students and workers.

An important aspect of the employment practices of large employers is that they usually recruit young graduates who will serve the company faithfully until retirement. Because of restrictive organizational practices, companies in Korea do not normally recruit qualified candidates from outside for mid-level jobs in the hierarchy. The young people recruited are expected to stay with the company until retirement, transferring from job to job. For this reason, what matters is not applicants' educational specialization, but rather the ability to do well whatever is asked of them. In the employers' opinion, the best criterion for selecting employees is their academic performance.

The employment practice outlined here has a strong impact on the education system because people attach great importance to seeking jobs in large companies. This practice results in the ranking of institutions on the basis of students' academic records. As university rankings are established, top-rankers emerge. Employers then select top-ranking universities' graduates, irrespective of their majors in those universities, and by the same token, university students do not study hard in their major immediately upon entering university. This tendency becomes more accentuated until the competition for entering top-ranking universities becomes so great that it destroys the normal curricular activities in schools and institutions.

This scenario is a typical one in Korea as well as in Japan and parts of China. Restrictive employment practices, combined with on-the-job or in-the-job skill development schemes, have tended to destroy vocational preparation in schools and institutions. With the passing of time, schools' and institutions' skill formation function has been greatly diminished.

The foregoing explains why vocational high schools now have such low status in Korea. In a period of economic expansion and labour shortages, vocational education, despite quantitative expansion, lost both its attraction and its value. For

students, vocational-education programmes were merely a choice forced upon them when they failed in the fierce competition for academic selection.

As may be imagined, this phenomenon is possible only when the economy expands long enough to cause firms to retain lifelong employment practices. This is primarily true of large employers; in the case of small businesses, the situation is completely different. However, the influence of labour markets on education is determined by the large firms, which are able to invest in human resources development. Small and medium-sized enterprises (SMEs) have suffered from a shortage of qualified workers resulting from education practices attuned to large firms' needs.

The ERP and the LRP were prescriptions for the education and labour system distorted by these practices. The system contributed little to strengthening human resources, particularly for SMEs, for which competitiveness became critical for further economic progress. Structural adjustment in the Korean economy is nothing other than the shift from a large-firm-oriented socio-economic order to a system to support SMEs. The same is true of education reform.

The employment practices mentioned so far were closely related to both economic expansion and almost full employment. When the Korean economy was continuing to expand, correcting those practices was almost impossible. Consequently, the current economic crisis provided a timely reason for educational reform as well as for structural adjustment. Vocational-education reform is now the core of the reform agenda.

Structural adjustment in Korea and implications for human resources

The current economic crisis is forcing Korea to accelerate the long-delayed structural adjustment. An employment survey by the National Statistics Office (Republic of Korea, 1998) revealed some important aspects of the changes in the labour market hit by unprecedented unemployment between July 1997 and July 1998. The following is a summary of that survey:

- The total labour force participation rate decreased from 62.9% to 61.4%: from 76.3% to 76.0% for men, and from 50.2% to 47.6% for women;
- The unemployment rate increased from 2.2% to 7.6%;
- The percentage of self-employed persons remained stable, while unemployment grew amongst waged workers;
- The highest unemployment figures were recorded in manufacturing and construction (three to six times higher than those for other industries);
- Unemployment was highest in the 15–19 and 20–29 age groups—between three and six times higher than that for other age groups; and
- The largest increase in unemployment was among workers with simple craft skills and manual workers, and, in terms of educational attainment, among high-school graduates.

These facts undermine the bases of the government's policy to support vocational high schools. This policy was based on three premises. First, the manufacturing

industry was suffering because of a shortage of labour. Second, there was an over-supply of university and college graduates. Third, the workforce was over-educated. The unemployment survey data suggested that these premises were very doubtful. The fact is rather that the vocational high-school expansion policy since 1990 contributed only to worsening unemployment.

The Korean economy was still expanding rapidly between 1986 and 1995. The average rate of growth of gross domestic product (GDP) during that period was close to 9% a year. The period was also characterized by an unprecedented expansion of higher education. Enrolment in junior colleges doubled. This expansion was accompanied by increasing numbers of young people entering higher education. Government policy in 1990 to expand vocational education at the high-school level was a misleading intervention against natural trends. Table 2 summarizes what happened. Until 1990, enrolment in vocational high schools had decreased rapidly, reflecting changing economic and social demands. Government intervention reversed the direction of the curve above the previous peak level within four years.

TABLE 2. Educational expansion, 1986–95

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Average
GDP growth	11.6	11.5	11.3	6.4	9.5	9.1	5.1	5.8	8.6	8.9	8.78
Vocational enrolment											
proportion	40.5	37.6	36.6	35.9	35.5	36.4	38.2	40.2	41.3	42.2	
HE entry/HS graduates rate	36.4	36.7	35.0	35.2	33.2	30.4	31.1	38.4	45.3	51.4	
Junior-college											
students (1,000)	250	259	266	291	323	359	404	456	506	569	

Note: The figures for GDP growth are taken from the Bank of Korea web database.

Despite the appearance of continuing economic growth from the second half of the 1980s to the first half of the 1990s, there were always experts and policy-makers who were seriously concerned about the constraints on the human resource capacity of the major economic components and agents. Besides the small number of prospering manufacturing and trade industries, there had always been many SMEs struggling for survival. Particularly underdeveloped were services and merchandising. In the meantime, the government's problem-solving capability and that of other public bodies were soon found to be unable to adjust the situation. In the Korean context, the real problems of structural adjustment lie in these accumulated weaknesses that have threatened the economy.

Having common Far Eastern cultural bases, Korea and Japan share many characteristics in education and labour. However, job turnover in the two countries reveals contrasting differences. Japan has very stable employment with a very low

job-turnover rate. In Korea, the rate had risen above 6% even before the current economic crisis. In that regard, Korea has a high job turnover similar to that of Anglo-American labour markets. However, the high job turnover in Korea is not so much an innate characteristic of the Korean labour market, but rather evidence of an underdeveloped workforce.

The high job turnover in Korea stems from the underdeveloped industry sectors within the economy, i.e. the above-mentioned services and merchandising SMEs, which accounted for 67.6% of total employment in 1997. In Korea, only public-sector bodies and large firms have maintained lifelong employment practices. Most private-sector jobs, with the exception of some established professions, have a very low degree of professionalization. Specialized qualifications do not usually attract attention in that labour market. There is a very large volume of poorly structured and underdeveloped labour at the lower end of the national skill profile. Therefore, job turnover in those markets inevitably tends to be high.

A survey by the National Statistics Office found the mismatch between workers' school majors and their current jobs to be far higher for vocational high-school graduates than for university graduates, while the mismatch for junior-college graduates was somewhere in between (Republic of Korea, 1997). The result of the survey implies that upper-secondary vocational education in Korea contributes little to guiding students in the direction of relevant jobs.

In fact, the Korean economy had already begun losing jobs from around 1990. Table 3 illustrates the negative employment trend between 1989 and 1993. Labour market observers maintained that declining employment was a result of diminished job creation and the decreasing competitiveness of manufacturing industries.

TABLE 3. Employment trends, 1986-93

	1986	1989	1990	1991	1992	1993
Increase in employment	535	641	525	540	345	282
Increase rate	3.6	3.8	3.0	3.0	1.9	1.5

Source: Republic of Korea, 1994, p. 8.

The industrial manpower outlook for 1998, forecast by the Korea Research Institute for Vocational Education and Training (KRIVET), described the national skill profile as having an 'overflow of low skills and a shortage of high skills' (Jang, 1999, p. 207). The report explained the Korean economic crisis in the light of workforce limitations that hinder structural adjustment. It noted the clear demands for refined skills, i.e. the intermediate skills once called for by the OECD, particularly in services and managerial occupations where occupational differentiation is increasing. This was confirmed in the Ministry of Labour's 1999 report. According to that report, the number of occupations increased over the previous three years from 248

to 335 in individual services, from 100 to 227 in real-estate and business services, and from 228 to 429 in computer and communication services.

However, too large a proportion of the Korean labour force lacks the skills necessary for further economic progress. Many Koreans have recently found themselves lacking the requisite skills to survive recent technological and industrial changes. The skill base of the Korean economy was already far below a level adequate to secure sustainable development in a fully industrialized economy. Of the economically active population aged between 25 and 64, 39% have schooling below the level of junior high school. These population groups that have only marginal skills with little opportunity for adult learning are largely exposed to unemployment. Without overcoming this constraint, the Korean economy has already reached the limit of human resource capacity for progress. The picture of unemployment in the survey by the National Statistics Office is proof of the extent to which the Korean economy falls short of the skill base needed for further development.

Secondary and higher education in Korea has expanded with exceptional rapidity in a short period of time. The school attendance rate among these age groups is the highest. Such rapid expansion has greatly improved the prospects of school-aged young people; but improving the skill profile of the total population is a different matter. There is a striking imbalance between the rapidly expanded schooling and the very slowly improved skill profile of the total population. This imbalance between the school-age population and the total working population is the result of serious shortcomings in the Korean education system, such as few opportunities for adult education and lack of lifelong learning prospects and practices. As shown in Table 4, educational opportunities for Korean workers are very limited.

TABLE 4. The rate of participation in adult education

Country	USA	Canada	UK	Germany	France	Australia	Sweden	Korea
Year	1996	1993	1995	1994	1994	1995	1996	1996
Rate	34	28	12	33	40	38	42	17.4

Source: OECD, 1997, p. 157.

An important weakness in the Korean education system is that once students left school, unless they were recruited by large enterprises, they rarely had another chance to learn. Many factors were responsible for Korean adults' limited learning opportunities. There are various obstacles in Korea for adult learners: rigid school enrolment policies, excessively long working hours, insufficient provisions for adult learning programmes, lack of government support for adult learning, and so on.

It was not until 1993, when it enacted the Employment Insurance Act, that the government came to recognize the skill development of adult workers as an important part of the national agenda. The Employment Insurance Act, emphasizing voca-

tional skill development, provides that employment insurance funds should finance vocational ability development activities: in-plant training, job training for the unemployed and training for employment adjustment. The training levy system maintained since 1976 is absorbed into the vocational ability development programmes under the employment insurance system.

Vocational-education reform: nature and issues

The vocational-education reform proposed by the second ERP in 1996 includes many policy suggestions for shifting vocational education in Korea from a highly regulated institutional system to an interdependent complex of autonomous initiatives and practices. The existing vocational-education system could no longer meet the economic demands for flexible and refined skills, and was stifling the growing aspirations to individual development through further education.

The ERP 1996 is characterized by its encouragement of initiatives by individual institutions in developing interdependencies in the system. Up until now, vocational education has been just a large cluster of similarly regulated institutions and schools with little relation to one another. They are only as different as prescribed by institutional rules. Members of the cluster behave uniformly according to those rules.

The ERP proposed developing negotiated interdependencies among institutions. In this way, it was expected that institutions would establish relations with other members of the system, and that joint initiatives by individuals would replace authoritative co-ordination. Under this scheme, contractual relations are currently developing between vocational high schools and higher-education institutions. Participating schools and institutions negotiate curricula, facilities, personnel and so on.

This practice of individual initiatives is a totally new experience for the participants as well as for the education authorities. After so much experience of regulated adaptive behaviours under the highly institutionalized education rules, the creation of a feasible behavioural model will be a difficult task and require a great deal of effort.

In addition, the ERP suggested that the education and training system should promote non-governmental initiatives for assessment and recognition of vocational competence. Qualifications in Korea have long been the subject of stringent statutory control. The State qualification system worked relatively well during the period of nation-building and government-driven development. As the economy progressed and occupational complexity increased, State control of qualifications began to lose its effectiveness owing to a lack of the necessary flexibility to respond to occupational changes.

Both academic qualifications and technical qualifications are mainly parts of the statutory system in Korea. This has been true of the former since the establishment of the modern education system, and of the latter since 1976, when the government enacted the National Technical Qualification Act. When Korean soci-

ety and the Korean economy were manageably simple, such statutory control was a source of transparency and reliability encouraging human capital formation and transactions. The statutory nature of the system, however, now restricts rather than promotes progressive societal initiatives. The statutory rules have prevented the system from adapting quickly to rapid occupational and technical changes.

Under the Foundation Act of Qualification (FAQ), enacted in 1996, independent assessment recognition and certification bodies are permitted to act as private businesses. The FAQ requires the government to promote the development of private sectors in these areas. This is still at the initial stage: interested parties have begun to mobilize. It is hoped that substantial progress will be made, to the extent allowed by accumulated experience and knowledge. The authors of the ERP expected private qualifications to compete with statutory qualifications to create a complete system of individual initiatives and flexibility.

The ERP placed considerable emphasis on building central and local constituency networks to align co-ordinated efforts for skill development. Vocational education and training can no longer be effective without consensus and joint decisions by related social partners. With so little experience of multilateral joint co-operation, this will be a very demanding task. The Vocational Education and Training Promotion Act (VETPA), passed in 1996, provides that the government is responsible for building up networking bodies at the central and regional levels; however, no such bodies exist yet.

Occupational associations in Korea have developed limited roles for vocational skill development. The firm-bound nature of union activities has restricted the unions' contribution to vocational education. In Korean history, the conflicts between the imported dominant culture and the aboriginal culture are well known. The two cultures have continued in parallel. In building up the network of social consensus, dominant practices and cultures can contribute almost nothing, while the aboriginal tradition of negotiated consensus and association might be of great help. The latter has not been utilized enough for constructive social action because for a very long time it has existed mostly as a counter-culture opposed to the dominant practices.

As far as the development of vocational education and training is concerned, social cohesion and trust seem to be the indispensable conditions. With the continuing progress of overall democratization in society, various types of participatory movements now prevail in Korea. Development of these movements would help reconcile the dominant practices with the Korean people's aboriginal culture of association. Thus, the social partnership for vocational education and training would develop proportionately.

Finally, the knowledge base and the developmental activities for vocational education and training reform are considered to be of strategic importance. Accordingly, KRIVET was founded in 1996.

The ERP 1996 intended to create new ways of guiding vocational education and training, which had formerly been organized and governed in a highly centralized and bureaucratic manner. School-based vocational education during the long

period of educational expansion has developed as part of a large institutionalized system including more than 1,000 institutions. Parallel with school-based vocational education is a similarly bureaucratized combination of the public training system and the national technical qualification system. The ERP's suggestions were based on the judgement that both vocational education and training should extend beyond the over-institutionalized establishments to yield a flexible and integrated skill development sector based on private initiatives and competition. Debates still continue in the process of implementing and legitimizing the suggestions of the ERP. Related issues are successively raised and reviewed or developed into policies. These issues are summarized in the following paragraphs.

DEREGULATION AND REGULATORY REFORM

Actors in vocational education cannot implement the initiatives expected by the ERP without extensive deregulation. Typical examples were seen in the contract-based high school-junior college alliances. As higher-education institutions, junior colleges can negotiate freely with vocational high schools. The latter, however, do not have enough discretion to negotiate with junior colleges. National curriculum and other rules imposed by national and local education authorities do not allow vocational schools the necessary discretion. This imbalance of discretionary power between partners in the contract frequently hampers the progress of joint initiatives (Chung, 1998, p. 297). Deregulation in vocational education is a pressing reform issue to be resolved.

The situation is worse in the training sector than in vocational high schools. In the intra-governmental regulatory reform drive, deregulation bears fruit very slowly. To speed up deregulation, transforming vocational institutions into independent agencies has been opted for by reformists, but so far in vain. National curricula for vocational high schools have also been under review with regard to their possible removal, but no conclusions have yet been reached.

Vocational education and training seem particularly susceptible to falling into the trap of government failure. In this field, people tended to imprudently accept government intervention and large-scale public programmes, particularly when the economy contracted. That is what happened in vocational high-school expansion in the 1990s. The same is happening now in the training sector with the economic crisis and high unemployment. The current economic crisis is greatly hampering the progress of vocational education reform.

SIGNALS AND INCENTIVES FOR ORGANIZATIONAL AND INDIVIDUAL ACTORS

For a system more dependent on decentralized and individual decisions, the supply of necessary information and incentives becomes an increasingly important public responsibility. Occupational and career information, and information about learning opportunities and education programmes, are now in increasing demand.

Investment in building computerized databases and recruiting trained experts will be enormous, but is receiving little attention owing to limited financing in the present economic crisis.

As remarked earlier, upgrading the skill and knowledge levels of the present adult population is an urgent policy issue. The ERP suggested encouraging lifelong learning by providing various incentives. Further discussions should have continued. However, with the economic crisis and the increase in unemployment, the discussion withered owing to the rapid expansion of public training programmes to counteract urgent unemployment problems.

CONFLICTS BETWEEN EDUCATION AND LABOUR

During the past decade, several countries have merged the education authority with the labour market and training authority. In Korea the conflict between education and labour arose in the discussions to prepare the ERP 1996. Reformists maintained that the two sectors should be closely integrated through the introduction of extensive choice measures and private initiatives. However, labour experts and policy-makers insisted on keeping the formal education system and the training system segregated. The ERP and the subsequent legislation—the FAQ, the VETPA and the KRIVET Act—are the result of adopting the reformists' view. However, conflicts and debates are still continuing in the implementation of the three acts.

Since the initiation of vocational-education reform by the ERP, merging the two government authorities has been a frequent topic in discussions on government administration reform. It will continue to be on the reform agenda, no matter how the issue of merging is resolved. Those in the areas of education and labour have lived too long in different worlds with different languages and outlooks to achieve a definitive reconciliation. Although Korea as a State has a very short modern history, the fundamental differences between the two sectors had been nurtured long before they were imported into the country.

KNOWLEDGE, COMPETENCE AND PROFESSIONALISM IN THE VOCATIONAL CURRICULUM

The present administration of President Kim, which took up office in March 1998, began using the concept of 'new knowledgeable intellectuals', referring to those who are skilled in tacit knowledge, or in other words, practical cognition. This concept was presented as the national objective for human resource development to achieve effective structural adjustment. However, that objective has not yet been translated into education policy. Curriculum reform of vocational education in Korea is very much lagging behind.

Knowledge is a key concept that has supported education as an institution throughout human history. The rote learning of codified knowledge used to prevail in education at all times and in all places. This has been particularly true in Korean education. The ERP 1995 and the ERP 1996 strongly criticized rote learning prac-

tices for being of no help to either students or to the nation in preparing for further progress. The ERP 1996 suggested the establishment of vocational core competence standards in the form of a general skills assessment scheme for vocational high schools. The ERP's suggestions were reviewed intensively in the seventh national curriculum revision, which will be effective from the year 2000.

However, the ERP's suggestion that vocational high-school curricula be reformed attracted little substantive attention. Although the seventh national curriculum revision is in preparation for implementation in schools, many observers consider the ongoing national curriculum revision to be a failure, not to mention the vocational high school curricula. The cause of this failure lies firstly in the inertia and indifference of those experts and practitioners in the field of vocational-school curricula, and secondly, in the lack of national consensus on the curricular-reform objectives. Strangely enough, even the core curriculum issues are now no longer a matter of public concern in Korea.

At present, the trend of curricular change driven by the government reform initiative is towards expanded student choice of subjects. Some practitioners in schools and institutions are very concerned about the decreasing consistency in the vocational and professional programmes caused by expanded curricular choice. They are interested in developing a systematic modular, competence-based curriculum as a way of recovering the concept of professionalism in vocational education. However, their voice in this matter is not strong enough.

Conclusions

This article has endeavoured to describe the current state of vocational-education reform in Korea, its background and the major issues. Reform is a very risky business. In Korea, the aspiration to education reform is widespread. However, this aspiration does not constitute a sufficient condition for successful reform. Reform needs purposeful design, action and skilful co-ordination. Vocational-education reform in Korea, however, meets only a few of the conditions required for success. There is therefore a long way to go. The economic crisis in Korea has influenced reform in both positive and negative directions. It has strengthened the motivation to reform vocational education again and weakened the institutionalized constraints on reform. However, in the turmoil of radical changes and crisis management actions, the issues are frequently overwhelmed and people have tended to lose the motivation necessary for success.

Vocational high schools are now the focus of the reform agenda. The place and mode of work in vocational education are critical issues in deciding the future direction of the whole education system. Koreans have not yet reached an effective consensus on the latter issue. As explained here, vocational education has not functioned properly in upper-secondary education. The most viable option is to redefine upper-secondary vocational education as the second pathway to higher education free from the intense competition of college entrance examinations that have plagued academic high schools. To do this, the development of totally new curricula is an

unavoidable first step. It is a very difficult task, as shown by the failure of the seventh national curriculum revision.

Vocational education in Korea appeared to be successful when it served a small percentage of the school-age group to satisfy market forces. It began to fail once it became a fundamental part of the universal upper-secondary education. A possible explanation might be that vocational education in itself entails more profound Western values and approaches than academic education does. In the Korean cultural context, the whole system of education is a transplant from Western civilization, of which vocational education forms a part. Academic education, though imported from Western civilization, fitted in relatively well with the Korean cultural traditions that have developed in the Confucian learning practices. However, jobs and work are more culture-bound than the general intellectual process. Vocational education as a part of the universal upper-secondary education, the system the Koreans opted for, seems impossible without an indigenous work culture.

The lost tradition of practical cognition embedded in Korean aboriginal culture, if recovered, might be utilized to revitalize vocational education. The ERP 1996 recognized the importance of the aboriginal mode of learning developed in the field of traditional arts. Academic recognition of such activities is under consideration, as suggested by the ERP. The concept of 'new knowledgeable intellectuals' could be an umbrella under which indigenous vocational education would develop.

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ON BECOMING

A WELL-BEHAVED ECONOMY:

THE CASE OF

BRAZILIAN EDUCATION

Ken Kempner and Ana Loureiro Jurema

Introduction

What has been called 'the country of the future' is, in fact, starting to live up to its 'future'—today.

João Sá, Chairman of the Brazil Section, Brazil-US Business Council¹

Original language: English

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Although João Sá is not an unbiased economic observer, his optimism is understandable as Brazil attempts to market itself as a serious world-class economy. After years of over 1,000% inflation and a twenty-five year military dictatorship, the new Brazil is seeking legitimacy and recognition for its standing as the world's tenth largest economy. Unfortunately, the historic economic and political instability of Latin America have caused investors and trading partners to be somewhat nervous in their dealings with Brazil. In a concerted effort to overcome its negative economic image, Brazil has launched a campaign that advertises the Brazil of today as a 'booming industry in a free-market economy'. The aim of such rhetoric and some governmental actions is to show that Brazil has become a *well-behaved economy*, worthy of investment by the world powers. Brazil hopes to convince the global market that it has become a valued member of the free-market club of stable, well-managed and well-behaved governments with inflation under control, no more revolutions or nationalizing industries.

Understanding who is the competition for global capital among the newly industrialized countries (NICs), Adyr da Silva, president of Brazil's network of airports explains: 'We have jaguars in Latin America just as clever as those Asian tigers'. It is not merely sufficient that Brazil shows it is a stable, free-market economy, it must demonstrate it is a superior investment to Taiwan, the Republic of Korea, Thailand or Singapore. These tigers, until recently, have offered Brazil its stiffest competition for global capital among developing countries. Because the Asian tigers appeared to have extremely stable governments and tightly controlled economies, investment capital flooded into Asia. In order for Brazil to attract investors' attention it had to assure investors of the same economic vitality and political stability as the Asian tigers. As recent economic and political events have shown, this vitality and stability have been more illusion than substance. This is particularly true in those countries where political stability has been exacted through autocratic forms of democracy. Indonesia offers an excellent example of the social costs of creating the illusion of a well-behaved economy through authoritarian means. The political, economic and social subjugation of the lower and middle classes necessary to maintain this illusion eventually collapsed in the face of declining benefits for being well behaved.

Although it is certainly admirable for Brazil to market itself as an economic comeback story, what social cost is there for becoming well behaved? And, specifically, what role does education play for the State in creating and managing a well-behaved economy?

Whereas economic solutions may be easily imposed by an authoritarian State, as in Singapore and formerly Indonesia, such choices are not so easily resolved in the more volatile political, social and economic climate of Brazil. The short-term expediency of controlling a well-behaved economy through authoritarian measures has the potential of destabilizing the political, economic and social structure to the long-term detriment of the nation, as Indonesia has shown. The social costs of maintaining a well-behaved economy must be paid eventually.

The steps to becoming a well-behaved economy are indeed complex and cer-

tainly require more than clever marketing. Foremost in taming or domesticating a misbehaving economy is the role the State and its various apparatuses² play in managing such economic and cultural change for both the political and civil societies.³ The State can attempt to control its economic destiny through the systems and apparatuses it has available, such as education, social services, the military, the national bank, among others. In today's global economy, however, there is considerable debate over how much control an individual State actually has over its economy and culture. Such control is especially problematic for developing and newly industrialized countries, given their dependent status on the periphery of the core economic powers. Readings, for example, proposes that 'since the nation-state is no longer the primary instance of the reproduction of global capitals, "culture"—as the symbolic and political counterpart to the project of integration pursued by the nation-state—has lost its purchase.'⁴

Adopting a well-behaved economy to be attractive to global capital is perceived as a neutral event—the only option for a developing country to follow. But how will Brazil guarantee such continued economic stability and at what cultural and social cost? What role should education play in assisting in the development of a well-behaved economy?

Because education is one of the largest public expenditures in developing countries, it is highly capable of influencing national economic policy.⁵ Whereas a State's influence on the global market may be minimal, the State can have considerable influence over its domestic educational policies, especially as they relate to managing and training the workforce. How should Brazil use education to maintain its economy in the well-behaved status it seeks? This is a particularly interesting question in the face of globalization where the role of labour and of the State are being greatly reduced. The State is no longer the principal influence on how its labour and industries will compete and influence each other and other countries. Although globalization is not the only model for economic arrangements, it is the dominant model and the only one pursued aggressively by international agencies seeking to control the economies of developing countries.

With the changing nature of global production and economic development, developing nations cannot afford to model their entire social, political and economic structure around a well-behaved, market-centred orientation.

In our inquiry we first consider the effects of the global economy on the periphery nations—Brazil in particular. Second, we discuss the role educational policy plays for the State in developing economic, political and social solutions for Brazil. Third, we introduce two examples of these educational solutions to understand the economic reality of preparing students for the lives they will lead in the formal and informal Brazilian economies. Fourth, we conclude our analysis by discussing the implications of Brazil's current educational policies in its attempts to become a well-behaved economy.

Globalization and the political economy

The global economy is going through a process of international adjustment in which the hierarchy of political and economic relations are being rearranged in the light (or shadow) of a neo-liberal and cosmopolitan doctrine generated by the capitalistic politics of globalization. Well-behaved economies are the ones that follow the recommendations of the World Bank. Countries that borrow money from the World Bank incur not only the interest debt of these loans but they must also adhere to imposed structural adjustment policies in order to secure the loan. For at least twenty years the Brazilian Government has been committed to heavy loans from the World Bank to support education. In general, these World Bank contracts cost Brazil three times more than the original loan value when interest is considered. Unfortunately, the results of the investment in educational terms or the social cost of the structural adjustment policies are very seldom evaluated or understood.

Fonseca notes:

In twenty years the World Bank invested 100 million dollars in educational projects for Brazil. In turn, the Brazilian Government invested 217 million dollars in these same projects and yet it has a debt [to the World Bank] of another 80 million dollars, not including what has already been paid in interests and fees. One cannot say that spending over 287 [million dollars] is a good deal.⁶

Professor Fonseca asserts further that:

... the projects were a failure. I am not saying that the projects in themselves were bad for the country or our schools. They were a failure following the criteria of the objectives defined by the World Bank and by the Brazilian Government. The teachers present the same deficiencies after receiving training. The approval rate of the students remained the same.⁷

Fonseca sees no pedagogical improvement and no financial advantage to Brazilian education from these World Bank loans. Furthermore, Fonseca adds that the World Bank's financing logic is not compatible with social investment: 'This [financing] logic leads the Bank to take education as an economic and financial investment, and it is not so.' Fonseca emphasizes her point with an example of building a hydroelectric plant. When the hydroelectric plant starts working it is possible to recover what was invested by selling the electricity it produces. In public education, however, there is no way to recover directly the money invested: 'you get social benefits to compensate the investment or you are throwing your money away', Fonseca notes.⁸

Within the process of financial globalization and in order to survive, Brazil is trying to adhere to the economic dictates of the global strategies defined by the World Bank and operationalized by the International Monetary Fund (IMF), among other agencies. Brazil is poised on a knife's edge in its need to bend to market forces while retaining its national identity and regional influence in order to join the global mar-

ket on its own terms. Unfortunately, the measures the Brazilian Government took to join the global market—steps that may have satisfied fast-moving global investors and Northern interests—have adversely affected the poor and the middle class.

The business world, the conflicts of the market and the daily administration of these problems demand a higher priority for the State than fulfilling its social obligations. The neo-liberal wave of globalization arriving at the shores of peripheral countries means that the social priorities of the State are superseded by the priorities of the global economy. The task of the State to serve the educational, health, security and employment needs of its citizens is deemed secondary to the needs of the global economy by the international agencies.

Brazilian educational policy

Throughout Latin America, some economists refer to the 1980s as 'the lost decade'. During this period a severe economic crises afflicted Brazil after years of economic growth, the average annual rate in the three decades following the Second World War being 7%. In the 1980s, per capita income fell by 5.5% and inflation reached over 2,000% a year. Even though Brazil's economy is among the ten largest in the world, the richest 10% of the population in 1989 absorbed 53.2% of the country's income.⁹ During this same period, however, Brazil had a commercial surplus, exporting to the European Union, United States, Asia and South America. In spite of the economic recession Brazil possesses the largest industrial park among developing nations and has a market as large as the ones of the Republic of Korea, Taiwan and Hong Kong put together.¹⁰ Despite these economic hardships for lower- and middle-class Brazilians, the State has continued to develop socially, politically and economically since the 1980s.

The 1988 Brazilian Constitution set a clear vision for the nation's education system, divided into four levels: pre-school (up to age 7), basic (eight years, also called primary level), high school (three years, also called secondary level) and higher education. The Constitution defines that education is 'a right of all' and a duty of the State and family to 'be promoted and encouraged in collaboration with the society, viewing the full development of the person, their preparation to citizenship and their qualification to work' (Article 205). The public sector is responsible for guaranteeing the provision of basic education. Basic education is compulsory and free for all, including persons above the usual school age who did not have access to schooling at an earlier age. The Constitution declares that the public sector is also to provide free high schools, evening courses for students working during the day, as well as guaranteeing day care centres and pre-schools for children from birth to 6 years of age. Additionally, the Constitution provides that the public sector is responsible for ensuring access to higher education 'according to each person's ability'.

The 1988 Constitution also instituted the National Education Plan to take effect over several years with the aim of: eradicating illiteracy; making schooling universal; improving the quality of education; training manpower; developing the

human, scientific and technological potential of the country. To implement the educational directions provided in the Constitution, the Federal Congress passed the *Lei de Diretrizes e Bases da Educação Nacional (LDB)*.¹¹ The LDB notes that the objectives for secondary school should be to:

deepen and consolidate the knowledge acquired at the elementary school, [provide] basic preparation of the scholar to keep learning in an autonomous and creative manner, and understand the scientific and technological foundations of the productive processes.

Whereas academic education that leads students to higher education has been well defined, vocational training has been separated from academic education and addressed prevalently to working-class children. In the 1940s, two national institutions devoted to vocational training were set up: SENAI, the National Industrial Training Service, and SENAC, the National Commercial Training Service. These two institutions, maintained respectively by the National Confederations of Industry and Commerce, operate the largest networks of vocational training in the country. SENAI and SENAC provide exceptional basic vocational opportunities for lower-class students, but the mid-level training needs of higher status knowledge are not as well covered.¹² Other vocational schools maintained by state school systems, the federal government and private institutions offer alternatives to SENAI and SENAC, but a system of mid-level training and technology, such as the community college system in the United States, does not exist. How students are to be trained for the middle levels of technology as Brazil continues to industrialize remains an unanswered question.

To increase articulation among the various levels of education that distinguish academic from vocational education, the Federal Education Act of 1971 promulgated basic principles and guidelines seeking to eliminate this duality in the education system. The act established universal, compulsory vocational training in the primary and secondary school curricula. In primary schools the legal requirement was to take the form of aptitude tests and work initiation, while in secondary schools it was to be in the form of direct vocational preparation. Unfortunately, it did not prove feasible to introduce such training in all secondary schools and in 1982 the law was changed to be less specific, leaving the exact prescription of 'job preparation' to the State Education Councils. The provisions of the 1971 act with regard to vocational training for adults are still in force, but very little has been accomplished in implementing the act. Some short-term policies have been enacted by the federal and state governments and periodic programmes have been implemented by trade unions, churches and other organizations, but broad implementation of vocational programmes for all students has not been conducted.

The Brazilian education system is well defined at the top levels of higher education and serves effectively the upper social classes. Likewise, the education system is also well defined at the lower levels of education through SENAI and SENAC. The obvious gap in the system is in the middle where mid-level knowledge and training is conducted and the working and lower-middle classes are served. This is a par-

ticularly critical situation as Brazil continues to industrialize and hopes to further develop its productive capacity.¹³ Whereas an inexpensive workforce has attracted international investment in the past, Rifkin warns: 'While cheap labour might still provide a competitive edge in some industries like textiles and electronics, the advantage of human labour over machines is fast diminishing with advances in automation.'¹⁴ Because high-tech production can so easily be transplanted to developing countries, cheap labour is no longer sufficient to attract international investment, except in the most highly underdeveloped countries. The most advanced NICs, such as Brazil, must continue to develop their productive capacity through a highly skilled workforce. Herein lies the attraction for international investors of doing business with well-behaved economies in the more developed NICs that offer a secure political environment with an educated workforce capable of operating high-tech facilities.

Understanding the informal sector

Whereas the political focus of an underdeveloped country may be on taming the private and public economic sectors, the State ignores the other economic sectors at its peril. What distinguishes developed from underdeveloped countries is typically the size and importance of the informal or underground economy.¹⁵ Because underdeveloped countries have relatively smaller middle classes than the more developed countries, informal economies account for a substantial part of the economic activities of the lower social classes. Given that the lower social classes are undereducated and often only marginally employed, they must turn to the informal or underground economy to fulfil their basic needs of food, shelter, clothing and safety.

The informal sector can be characterized as an unofficial part of a nation's economy that consists of relatively unskilled jobs not regulated by government, not susceptible to taxation, not providing job security or health insurance, as well as 'outlaw jobs' where individuals make their living stealing or selling drugs or weapons. The income generated by individuals in the informal sector is thus intermittent and variable. The dimensions of a business enterprise in the informal sector are determined by the family's capacity for work. Typically, individuals in the informal sector have low levels of education and few professional qualifications, but the demographics of the informal sector are changing as more members of the middle class face unemployment and turn to the informal sector for survival.

The expansion of the informal market is a typical phenomenon of unstable and poor economies. During times of social and economic crisis, the size and importance of the informal sector for the underclasses, and more recently in Brazil the middle class, offer clues both to the economic strength of this sector and proof of its capacity to adapt to adverse situations. In the long term, the reliance on the instability of the informal sector to serve the social and educational needs of the lower classes is not likely to be the path to a well-behaved economy.

The State, in particular, has accepted little role in serving the educational and social needs of the inhabitants of Brazil's informal sector. Brazil's lowest classes live

in *favelas*, the shanty towns of every city, made up of a patchwork of illegally and often poorly constructed dwellings. For example, the largest *favela* in Rio de Janeiro (Rocinha) has over one million inhabitants—almost one-seventh of the total population of the city. Because most individuals in the *favelas* are either unemployed or work for very low wages, they have in the past conducted their daily business by bartering items and services within the informal sector of the underground economy.

The State's absence in serving the needs of the informal sector contributes to the increased instability of the overall economy. Since the participants in the underground economy represent such an enormous pool of raw, uneducated labour, the State must eventually be accountable for the economic and educational needs of such a large proportion of its population. It is too simplistic to say, however, that this population constitutes human capital to be developed for the labour needs of the private sector. As Rifkin notes, society is a 'three-legged stool' composed of the market sector, the government sector and the civil sector of society.¹⁶

As life in the *favelas* demonstrates, however, there is a fourth leg of the stool for developing countries: the informal sector. Because the strength and vitality of this fourth leg are often what distinguishes a developing country under political and economic control, the role the State plays in being accountable for this sector's activities is critical in fostering or hindering the appearance of a well-behaved economy. Likewise, international agencies must be more sensitive to the effects that economic policies have on the informal sector. Setting minimum wage rates and assuring the provision of education, health and social services by international agencies has a significant and often adverse effect on the health of the informal sector. Such economic policies exact a great toll on the lower and middle classes, for example, by reducing minimum wages for production workers, freezing or reducing salaries for government workers or eliminating them altogether, and reducing social services and retirement benefits. While these policies may secure short-term economic benefits and offer the illusion of a well-behaved economy, such policies risk longer term consequences by creating great political instability among the classes benefiting least from such policies.

By not serving the social and educational needs of the underclasses, countries risk economic instability as the informal sector continues to grow. To better understand the economic reality of the lower classes and the informal sector they inhabit, their educational and social needs must be understood and addressed by the State and the international agencies that dictate economic policy.

Having introduced the difficulties in becoming a well-behaved political economy within all sectors of a society, we present two stories to more clearly define the reality of the informal sector and the role education plays for individuals within this sector.

Education and the informal sector

Edivaldo, a science and math teacher, gives evening classes in a school of São Caetano do Sul, São Paulo. As a teacher he earns R\$ 223 (a *real* is about US\$ 1) a month,

completely insufficient for someone with a wife and three kids. His salary is especially low for someone with so much formal education. He also works within the informal sector of the economy. In order to maintain a more adequate standard of life, he sells panties and bras in a street fair. During the day he works at his lingerie booth and in the evening he becomes a schoolteacher, taking the evening shift in the formal educational sector (schools are divided into three shifts to allow students to work during the day). When Edivaldo takes down his booth at the end of his day in the informal sector he has earned R\$ 75. In a month he earns a profit of R\$ 600, around three times more than his school salary.¹⁷

Obviously, Edivaldo's formal education contributes little to his dreams of becoming middle class. The moral for Edivaldo and others who inhabit the informal sector is that school is not worth the time. Formal education and studying do not assure social mobility or enough money to survive. In a developing economy, it is not only the formal school system that is defining rules of professionalism and social mobility. Knowledge and formal schooling are not sufficient to overcome the discrepancies of social class. Edivaldo's education yields only a minimal salary as a teacher, which is indicative of the low value the formal sector places on education for the lower classes. Knowledge is secondary to class membership and participation in the formal economic sector. It matters less what is actually learned compared to where one learns it and at what class level an individual joins the workforce. Policy decisions by the State are based only on the economic rewards they will yield for the private sector, not on the social needs of the public sector.

A second example comes from a teacher in Pernambuco (North-East Brazil) who was on her way to teach in a small town of the region when her car broke down. A man passing by the road told her to wait for help, as he would send someone. She waited. Half an hour later she could not believe her eyes when she saw that the help was a 'kid, no more than sixteen'. Ten minutes later she was driving the kid back to the village in her own car. She then related her conversation:

- I have to tell you! When I saw you coming I didn't believe you could get me out of there with my car working! You're a smart guy! Which grade are you in?
- I dropped out of school.
- Really?
- Yeah. About two years ago.
- Why did you do that? You're so clever.
- I found out that there was nothing in school that could be good for me.
- How come? With your knowledge you could go further. What happened, really?
- Oh, well, I fought with my teacher. And decided to quit.
- But why did you fight with her?
- I was in science class and the teacher said 'oil and water don't mix'. And I said: 'Excuse me, but they do'. The teacher replied: 'Of course they don't, it's written here in the textbook. Look'.

The youngster explained that the discussion with his teacher continued with neither of them changing their minds. The teacher got mad. He got mad. Then he decided

that he was wasting his time going to school. He would be better off just working in a garage learning how to become a mechanic than arguing with the teacher. School was not only taking his time, but also 'teaching the wrong stuff'. After all, he could see while working in the garage that the oil disappeared in the boiling water of a car's motor.

If schooling no longer leads to labour market success, what then is a student's motivation to attend and continue in school? As we saw in the previous story, education appears to offer few rewards for members of the underclass. If the value of education leads to marginal returns, the legitimacy of formal schooling will continually be questioned—and rightly so from the perspective of those receiving little if any benefits from schools.

The tragedy, of course, is when formal schooling is seen not only as a waste of time, but *damaging* to one's life chances. What a waste of time and energy when schooling alienates smart kids from the informal environment in which they live!

These two stories offer living examples of fragmentation, of the apartheid between the formal school system and life. In spite of this segregation, preparation for work and the myth of class mobility have long been central to the ideology of formal schooling.¹⁸ Parents expect that schools will prepare their children for work while enabling social mobility. Such mobility is gained through the common assumption that students' economic futures are dependent upon their performance in school. Willis found, however, that 'learning to labour' offered no assurances of upward mobility since the class structure and culture of the working-class students mediated any dreams of advancement.¹⁹ Dreams of upward mobility have been tempered more recently by the realities of international competition. Schooling is presented as necessary by the State not for social mobility or personal advancement but to prepare future workers. The State's goal is a well-behaved workforce, not fulfilment of individual dreams. The danger is that the State, not education, is marginalizing individuals by sending them underground into the informal economy where they believe their prospects for the future will be better than as workers in the formal economy.

Formal solutions for the Brazilian economy

Unfortunately, Brazil's school system (and those of most NICs) is not responding to individuals' aspirations of upward mobility, nor to the reality of the global market. Training institutions are producing students who cannot find work in the industrial sectors while, at the same time, individuals such as Edivaldo are flourishing in the informal market. If we are to accept Rifkin's view that current economic arrangements are changing the need for production workers, the State and its education system must adapt accordingly to educate citizens for the future they will face, rather than training them for specific jobs that will likely not exist by the time they exit school. Likewise, NICs would be advised to follow Gramsci's idea that schools should go beyond the traditional emphasis of 'qualifying oneself to work'.²⁰ That is, education for work should not be merely preparation for the training and reproduction of determined tasks. Education for work should include not only a

practical orientation, but a technological one that incorporates knowledge and re-elaboration of the culture of work.

Changes in the global economy have led to an expansion of the service sector with unemployment in the manufacturing sector that will continue to decline as automation increases.²¹ Because of the decline in manufacturing, self-employment and the informal work sectors are increasing in importance. This presents an interesting economic dichotomy with the increased importance of individual entrepreneurship seemingly at odds with the wishes of the Brazilian State to create a well-behaved economy for the world market.

Although Brazil's training institutions, such as SENAI and SENAC, incorporate knowledge acquisition along with practical training, these institutions have little incentive to adjust to the training needs of the informal sector. These training institutions do an excellent job of responding to the needs of their consumers and the industrialists who fund them. As Moura Castro notes: Why should they train competitors? Why should they train for the informal sector, which does not pay taxes and often times creates competing businesses?²² SENAI, for example, belongs to the Federation of Industries, which is controlled by industrialists who have little incentive to support the informal sector. SENAI executives produce what their consumers demand. As Brazilian industry continues to develop, SENAI's training provides state-of-the-art courses in modern technologies. Therefore, since SENAI does not have to adjust to new educational markets, there is little support for the educational needs of the informal economy. While the private sector may be well behaved educationally through SENAI, the informal sector is not so well served.

In contrast to SENAI's service to industry, SENAC has not been equally supported by the commercial entrepreneurs that support it in its mission to 'develop persons and organizations through the educational actions which touch knowledge in commercial and services activities'.²³ In order for SENAC to survive, it began to charge directly for its courses. In this manner SENAC gained a greater degree of financial autonomy and was able to serve directly the needs of those students who could afford to pay for its courses. Moura Castro explains: 'if students have to pay to attend courses, offerings which do not have a market niche will not attract students'.²⁴ Who, then, meets the educational needs of the unemployed and informal sectors?

The formal economy is obviously not able to absorb those who need to work. Unemployment is on a massive scale, as is marginal and intermittent employment. Even if schools were involved in a full spectrum of workplace preparation activities, the basic determinants of the labour market are outside the influence and ability of the formal education system to effect change independent of the political economy and social system. Schools or schooling do not determine the economy, regardless of what politicians say at each election. As Walters notes: 'education cannot of itself promote peripheral economic change'.²⁵ Although schools cannot do everything, they certainly can do something—more than is being done. Preparing students for the formal sector, however, remains a critical function of schooling and a main reason for students to continue in school.

How can schools prepare lower-class students for life in the informal sector? At least two basic options have typically been offered: providing students with a broad, general education to be of value to them in whatever sector they find themselves, and teaching directly and specifically about and for work. Choosing direct instruction for work in Brazil, the first option, is somewhat limited, however. Brazilian schools are staffed by teachers who, at least initially in their careers, are oriented toward a university education. The majority of teachers are trained and work in traditional academic disciplines. A biology teacher, for example, may never have worked as a biologist. Understandably, few teachers in public schools have been trained to educate students for the work that the majority of their students will actually find in the informal sector as individual entrepreneurs or in small businesses. Only a few schools in the formal education system are oriented to work-related education at any level, even though this is promoted as the logical choice among the options of education for work or education for life.

The first option, educating lower-class students in developing countries for life, encompasses the creation of citizens who accept the moral obligation of living harmoniously with other human beings through an intimate connection with social practice (praxis, as in Freire's philosophy). This is the creation of citizens in a complex and contradictory process (Gramsci's philosophy) that enables individuals to become pillars of resistance. By creating citizens, not merely workers, individuals are conscious of their rights gained through social struggles. In particular, educating lower-class students for the reality of life in Brazil necessitates an education that keeps at the forefront their struggle to gain access to material and cultural goods and the benefits of becoming secure, complete citizens of the Brazilian democracy.

Within the second option of educating the working and lower classes in the public schools for work, the Brazilian response is quite good in the form of the Brazilian Service to Support Micro and Small Enterprises (SEBRAE)—an attempt to formalize the informal. A partnership of representatives of the private sector and the federal government, SEBRAE works to stimulate and promote small enterprises in accordance with the national policies of development. SEBRAE is organized as a system of units at the state level connected to the centralized core at the federal level. Its annual budget is R\$ 460 million (approximately 460 million dollars), derived from a 0.3% salary tax of all Brazilian enterprises. SEBRAE supports programmes aimed at modernizing the entrepreneurial management of micro- and small enterprises (MEPs), increasing the competitiveness of MEPs, generation and dissemination of information about MEPs, and articulation among the MEPs within the SEBRAE system.²⁶ SEBRAE makes these programmes viable through a variety of activities such as fairs and expositions, training programmes, courses and conferences, consulting and publications. In conjunction with small entrepreneurs and its system of units, SEBRAE also works to promote tourism and agriculture. Through the Banco do Brasil SEBRAE offers lines of credit and is also engaged in partnerships with the World Bank, the IMF and other international agencies supporting small businesses and entrepreneurs. In total, SEBRAE supported over 6,000 enterprises in 1994 through management and technical courses. In Brazil, because there

are over 4 million small enterprises, 48% of the national production, 60% of employment and 42% of the paid salaries are attributed to these small businesses.

SEBRAE offers a partial and viable solution to the dilemma of educating individuals for the reality of the workplace. SEBRAE's focus, however, is on existing or potential entrepreneurs, predominantly in the formal sector. Serving the needs of students in public schools is not within the purview of SEBRAE's responsibility. The solution for professionalizing public schools with Law 5692 did very little to solve the problem of preparing students for the labour market they will face. What appears to be necessary, therefore, is a public education system that recognizes the reality of the workplace that the majority of its students will face. The current public education system in Brazil does not possess this level of recognition. Furthermore, there is little recognition nor solutions offered for the first option of preparing students for the life they will lead in the informal sector. Whereas SEBRAE does offer opportunities for a small proportion of the members of the informal sector, little effort and thought is given to educating lower-class students to the life they will lead in the informal sector.

Herein we find the major flaw in Brazil's and other NICs' desires for recognition as well-behaved economies. By not attending to the education needs of a substantial portion of the population, there is considerable economic and social risk that stability can be maintained in the long term. Under the guise of being well behaved in the private sector, NICs must hide the informal sector's vast potential for misbehaviour.

Implications and conclusions

In this paper we have argued that by not serving the social and educational needs of the underclasses, countries risk economic and political instability as the informal sector continues to grow. As the Asian tigers are licking their economic wounds, the South American jaguars would be advised to attend to the dynamics of their own internal labour markets. Greater understanding is needed regarding how the State serves the social and educational needs of all sectors of its economy and the danger inherent in serving only the interests of the private, formal sector.

We have highlighted the multifaceted nature of a nation's economy by adding a fourth leg to Rifkin's 'three-legged stool'. We encourage, therefore, a broader recognition of social sectors and of the capital within these sectors. A more humanistic capital theory that meets the social, economic and educational needs of *all* the social sectors is ultimately more supportive of a stable, well-behaved economy than traditional human capital theory that supports only one leg of the stool.²⁷ Examples of such humanistic policies would be those that invest not merely in economic outcomes for the private sector, but social investment programmes to benefit the welfare of those in the public sector such as underfed children, teen mothers or the elderly. Literacy, land redistribution and health education programmes are examples of humanistic-oriented capital investments in the public sector that do not immediately yield returns for the private sector to attract capital. But in the long run such pro-

grammes do more for creating a truly well-behaved economy and nation than authoritarian, short-term policies that give the illusion of a well-behaved economy through subjugating the underclasses.

A humanistic-oriented capital theory would emphasize the role played by public education and its responsibility for preparing citizens of the lower classes to participate in the full spectrum of social sectors. Unless education assists in the development of all social and economic sectors, the State will be incapable of maintaining a stable and well-behaved economy in the long term. Furthermore, we argue that the purpose of education should reach beyond the mere development of human capital. Because, as noted, the value of human labour and capital are diminishing, a market-centred orientation is no longer the only role the State can afford to play.²⁸ One of the few options for the State to mediate the effects of the global market is through the education of its citizens. Cheap labour is no longer a guarantee for international investment. Becoming a well-behaved economy entails the development of a social and political structure supported by a nation's four-legged social stool. Similarly, international agencies must also recognize the effect of their policies on all the social sectors and classes. Policies imposed to control the behaviour of the private sector have grave implications for the informal sectors. Austerity measures are too often blind to the effects these policies have on the informal sectors of the economy and to the overall political stability of the State.

It is our premise that education has a supportive but fundamental role to play in the development and maintenance of a well-behaved economy. In the current climate of economic globalization the concepts of economic time and space have changed such that the conditions and possibilities for national economic policies to respond to the global market are no longer under the complete control of a nation-state. Nevertheless, strategies for coping with the new, globalized economic guidelines are necessarily implemented at the national and local levels where policies are actually enacted. For this reason, globalized capital expects well-behaved economies with stable political environments. Each State must bear responsibility for assuring its internal social and economic stability. In order to become and then maintain itself as a well-behaved economy, Brazil needs a critically conscious citizenry prepared to defend its own economic and social interests.

In today's global marketplace where localized social movements become global and globalized economics become local, political and social stability need to be based on a collective will, which education should be instrumental in constructing. This is the 'social capital' that Rifkin notes is necessary for economies to remain competitive in the global marketplace. Such social capital must be distributed throughout the nation if all sectors are to be stable and working toward the economic and social goals of the State. When the educational, health, security and employment needs of its citizens are deemed secondary to the needs of the global economy, as is typically the case with international agencies, the State risks the stability and economic prosperity it seeks.

While we believe there are no definitive answers for any particular State to the numerous questions we have posed here, we have emphasized the instrumental and

supportive role education should play for the State in creating and maintaining a well-behaved economy. The State cannot merely advertise a well-behaved economy into existence, but must implement measures to assure social and economic stability for *all* social sectors. By failing to serve the social, educational and economic needs of a large portion of its citizens, the State continues to drive individuals into the underground and informal economies.

How both formal and informal education can prepare individuals for all sectors of the economy is a question facing Brazil and other NICs. Global capital is not attracted to the instability of informal economies, yet the informal economy is the fastest growing sector for the lower and lower-middle classes in Brazil. Although educational solutions, such as SEBRAE, are successfully being implemented, a larger and more concerted national and global effort is necessary to stem the tide of individuals washing on the shores of the informal economy.

Notes

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TWO INTERNATIONAL CENTRES

FOR TECHNICAL AND

VOCATIONAL EDUCATION

Frans Lenglet and Christopher McIntosh

The International Training Centre of the ILO

This article is divided into two parts. The first part describes the evaluation of the International Training Centre of the International Labour Organisation (ILO), also known as the Turin Centre, from its beginning as a specialized technical vocational training institution to a world-wide management training organization operating within the mandate of the ILO. The second part reviews the Centre's rapidly changing environment at the end of the old and the start of the new millennium, and describes possible responses.

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THE TURIN CENTRE, 1965-98

The International Training Centre of the ILO was established in 1965. Its original purpose was to assist in building and strengthening the technical vocational training systems in the then decolonizing and so-called underdeveloped countries. In the period 1965-89, it trained almost 30,000 training instructors and administrators, and it developed and disseminated a vast quantity of training methods and curricula.

At the end of the 1980s and the beginning of the 1990s the Centre made a break with its earlier years, and changed the content and methods of its training work. First, it moved to achieve a greater integration of its activities with those of the ILO itself. Second, it opened up to the United Nations system at large. And third, it started to establish partnership and operational relationships with regional and national training institutions. This transformation was accompanied by significant increases in its productivity (see Table 1) and a strengthening of its professional staff. Its current prestige and financial health are the result of being responsive to the continuous changes in its environment.

TABLE 1. Turin Centre activities, 1989-98: main quantitative indicators

	Number of training programmes & projects	Number of field-based activities	Number of participants	Number of participants/days
1989	74	14	1,489	44,549
1990	78	19	1,522	46,591
1991	103	22	2,199	63,613
1992	110	28	2,015	47,952
1993	116	20	2,276	47,392
1994	119	22	2,359	45,207
1995	147	34	2,915	47,753
1996	207	55	4,429	56,106
1997	272	99	5,955	63,654
1998 est.	303	120	6,282	65,813

Evolution of training content

During its first twenty-five years, the Centre's area of operations was limited: residential training for technical vocational training instructors (3-9 months) on its own premises and in its own workshops in Turin. Today, the Centre offers a much wider range of products and services: training courses, workshops and seminars varying in length from a couple of days to a couple of weeks. These take place in Turin or in the field. They are fully residential or they combine residential training with distance learning. The activities and events are either stand-alone or part of larger technical assistance projects. The Centre also offers training advisory services, includ-

ing turnkey technical vocational training projects. It designs and produces multimedia training materials, and organizes study visits for groups and individuals in relevant organizations, enterprises and specialized institutions. It actively encourages potential customers and their financial sponsors to articulate their training needs and demands, so as to design programmes and services that have the desired effect and impact.¹

Technical and vocational training subjects comprise about 20% of the Centre's activities. Its interventions mirror and correspond to the domains that are central to the ILO mandate: international labour standards; employment and training policies; human resources and skills development; reform of labour market institutions; enterprise development and management training; management and reform of social security and pension systems; trade unions' training policies and systems; labour relations and social dialogue; procurement and project management. Aspects of gender equality and the empowerment of women are the subject of special activities. They also form an integral part of most other activities.

This evolution is the result of heightened cooperation with ILO's technical departments, as well as with its regional structures. Both are closely associated with the development and implementation of the Centre's activities.

Evolution of training approaches and methods

In response to the need for greater relevance, effectiveness and efficiency, and in order to maintain optimal financial conditions, more and more training activities have been taking place in the field. Today, about 40% of all operations are field-based. For certain regions, e.g. Africa and Arab States, field-based events already account for more than 50% of activities. This increase is possible only thanks to more frequent and more intensive collaboration with regional and national training institutions. These act as co-developers or co-implementers with the Centre, or as both. At the same time, the Centre has entered into occasional as well as structural co-operative arrangements with a selected number of universities and international agencies, including the International Institute for Educational Planning/UNESCO and the Economic Development Institute of the World Bank.

Opening to the United Nations System

In the early 1990s, the United Nations (UN) system at large expressed a growing need for training assistance in areas such as social and economic development; management of the development process; conflict prevention, peace building and maintenance; and human rights and humanitarian action. The Centre responded by designing special programmes for the UN and its specialized agencies. In 1996 these activities, and others, were brought together in the UN Staff College Project. Through innovative training and learning opportunities, the Staff College facilitates and supports the process of reform of the UN system. In addition, it promotes collaboration and linkages across the UN system in the design and implementation of the

agenda for peace and development. Staff College activities are not limited to UN staff but also include national counterparts and other key partners, from the public and the private sector as well as from civil society.²

Improved infrastructure

The qualitative evolution and the increase in the Centre's activities have also greatly benefited from the upgrading of its infrastructure. Hostel and training rooms are continuously being renovated and expanded. New training hardware, including networked computers and computerized training rooms, Intranet connections and videoconference facilities, has been added. A brand-new facility for the application of new training technologies and distance-learning approaches is under construction.

NEW TRENDS AND CONDITIONS

At the end of the old and the start of the new millennium, the Turin Centre is facing new challenges. It is certain that a mere extrapolation of past trends—as described in the first part of this article—will not suffice if the Centre wishes to remain in the forefront of provision of quality training in the areas of concern to the ILO, its constituents and the world at large.

Four sets of conditions in the Centre's environment are posing threats and offering opportunities which require creative responses in terms of relevance, content as well as pedagogy and delivery methods. The first set of conditions is related to the limits of the dominant development paradigm. The second set relates to the position of 'knowledge' in the development process, and the capacity of individuals and communities to be part of the production of new knowledge and the use of current knowledge. The third set of conditions concerns the latest insights about the way in which persons, and especially adults, learn. It also includes the growing sophistication of the Centre's potential clientele, and the increased complexity of the issues and tasks facing the latter. The last set of conditions has to do with the rapid advances in information and communication technology. Their adoption is essential in order to meet the challenges for increased reach, enhanced effectiveness and longer-term sustainability as posed by the first three sets of conditions.

Paradigm shift

The recent and ongoing financial crises in South-East Asia and Latin America are exposing—if need there be—the limitations of a development paradigm that is based on the 'Washington consensus'. Past economic growth was able to produce dramatic results in lifting significant portions of the populations above the poverty line. But economic crises can produce large and rapid increases in inequity. Prior to the Asian crisis there were 30 million people living on less than US\$1 a day in Indonesia, Malaysia, the Philippines and Thailand. By the year 2000 that number could easily double to 60 million. The reality of millions of people losing their jobs, their

livelihood and their dignity is compelling many, including the World Bank and the International Monetary Fund, to admit that the traditional development approach (which produced the so-called Asian miracle) is not working any more. As the World Bank's Chief Economist recently said, echoing Amartya Sen:

Although safety nets and targeted assistance may mitigate some of the consequences of unemployment, from an economic, political or psychological perspective, nothing is better than a job. Jobs are the means by which people participate in the productive economy and feel productive themselves. It is one of the most important sources of inclusion in the national economy.³

Employment and jobs appear to reassert their centrality in a newly emerging development paradigm. Economic growth coupled with full employment should be the objective of macroeconomic policy. However, where economic growth falters and social and economic forces introduce structural changes in the make-up of society, unemployment insurance, targeted social assistance and other social safety net programmes are required in order to maintain people's incomes and ease their transition into new and future jobs. Internationally recognized standards, as embodied for example in the most recent ILO Declaration on Fundamental Principles and Rights at Work, are another form of social safety net. They guarantee that those affected by economic restructuring and transition maintain their voice and are protected against worsening employment conditions and discrimination.⁴

As a constituent part of the ILO, the Turin Centre is not indifferent to the changes in the content of development thinking. It recognizes the need for a debate on and search for a more appropriate development paradigm among social partners, universities and think-tanks, non-governmental organizations (NGOs) and international (financial) institutions. The Centre's current courses and training activities need to take into account the changing social and economic realities of its client countries and participants. It needs to enrich and expand its offerings by exploring and reflecting on alternative instruments, interventions and policies that can stop downward spirals of job loss and underemployment, and open avenues towards employment creation, employability and social inclusion. At the same time, the Centre and its infrastructure offer excellent conditions and facilities for sharing and exchanging experiences and insights relating to these issues, and for fostering dialogue among social partners and (inter)national organizations that may not have the habit of regularly meeting one another.

Knowledge for development⁵

Recent reports by the World Bank, the ILO, UNICEF and the Organisation for Economic Co-operation and Development⁶ focus on knowledge, training and human capital as significant determinants or factors in the development process. The reports emphasize that knowledge and understanding of scientific and administrative processes and their applications, as well as the skills that go with these, are essential for

development to take place, whether measured as increased social benefits, better infrastructure, higher educational attainment, increased employability, higher productivity, higher wages, or otherwise. Differential levels of development can often be equated with or partially explained by different levels of knowledge or differing amounts of human capital. Enhancing the capacity of countries, communities and individuals to acquire more and more sophisticated knowledge, understanding and skills is central to the development effort.

The generation, organization and dissemination of knowledge in all its facets is no longer confined (if it ever was) to universities, research institutions, schools and training institutions. All kinds of organizations, such as private enterprises, private and public financial institutions, UN agencies, and many quasi-governmental and fully non-governmental organizations, are currently involved in the production, packaging, selling and distribution of knowledge and information. An institution such as the Turin Centre, expressly established for helping people to acquire knowledge, and thus to build the necessary knowledge-based capacity in their countries, could and should align itself with these conditions. In its fields of immediate competence—employment and labour—it could further its links with other organizations that produce and distribute knowledge, especially universities. It could bring knowledge seekers into contact with knowledge producers; and it could work with its clients in designing and establishing institutional and organizational capabilities for knowledge production and use.

Learning methods

The increasing sophistication of the learners runs parallel with the growing sophistication and complexity of knowledge. Learning and training institutions, in order to remain relevant and viable, need to match this trend by enhancing the sophistication of their products and services. In the Turin Centre's earlier years, skills training (the applications of a predetermined and well-specified set of procedures and manipulations), often on a modular basis, was the dominant method of knowledge transfer or training. Gradually this model has been complemented and supplemented by an experiential learning approach, relying on the participants' own understanding and experience. It assumes that the trainees or learners have a relatively high level of initial education, and master the analytical and other skills to draw lessons and insights from knowledge sharing and exchange among themselves. With the 'explosion' of the availability of knowledge and information through information and communication technology, the experiential learning approach no longer suffices. This has consequences for both trainers and participants, as well as for training offerings and methods. Where learners themselves wish to have greater control over their own learning process, the instructors and trainers are becoming learning coaches. They need to combine internationally recognized specialist knowledge with understanding and skills in adult pedagogy and learning, as well as with sophisticated appreciation of the specific geographical and cultural background of their learners. In addition, short learning events will require greater access to up-to-date

and highly sophisticated information through renowned resource persons, video-conferencing and a variety of electronic means, including the Internet and Intranet. At the same time, a new market is opening up for longer (graduate or post-graduate level) learning sequences, whether offered *in situ*, through videoconferencing or in a distributed way, for those who wish to acquire specialized (post-) graduate knowledge and skills in their own field.

Information and communication technology

The rapid advance in information and communication technology (ICT) is the fourth challenge for the Turin Centre. The application of ICT opens new vistas for connecting learners and learning resources, irrespective of their geographical location, and irrespective of the medium containing the message, whether person or machine. The pioneering efforts and achievements of open universities world-wide are currently being imitated and upstaged by large numbers of new training and learning providers. The decrease in costs and the facility of use of the latest ICT are lowering the threshold for new entrants in the training and learning market. This creates marvellous opportunities for both (potential) learners and learning providers. Learners will have the possibility of 'shopping around', of gaining access to widespread learning resources, and of connecting to and interacting with other learners without moving from their place of work or residence, and often at lower costs. At the same time, ICT allows training and learning providers to redesign the formats and content of its offerings. Residential training, using on-site and off-site videoconferencing, can be combined with distributed learning by way of correspondence methods, CD-ROM, the Internet, or a combination thereof. ICT also makes it possible to reach new audiences, and to collaborate with new partners all over the world, matching increased reach with increased effectiveness.

Prospects

Close to the start of a new millennium, the Turin Centre is ready to meet the four challenges described here. It forms an important part of the reform of the UN system, and is an essential component of the ILO. In its work it will continue to focus on the social dimensions of development, and thus support the formulation of a new development paradigm. While maintaining its reputation as a provider of skills-based training for middle-level managers and operators, it will increasingly open up to issues of development policy and processes. The Turin Centre is well situated for providing the physical space and learning conditions for encounters and exchange among a variety of people representing diverse and even opposing interests and views on issues that are central to the global development debate and effort. It can (and does) create new training and learning platforms, alone and with a variety of partners in developing and developed countries, including training institutions, universities, and public, private and non-governmental organizations. In this way, it considers itself to be making an important contribution to the task of harnessing

knowledge for development. At the same time, it is reviewing its training and learning approaches and formats, placing the learner at the centre of the process. It is retooling its staff, modernizing and enhancing its pedagogical and learning facilitation methods and techniques, deepening its specialization in subject matter areas, and reinforcing its systems for measuring effect and impact. It is currently investing in information and communication technologies and methods, allowing its customers and staff to derive maximum benefit from them.

The UNESCO Institute for Education, Hamburg

As the main UNESCO body concerned with adult learning, the UNESCO Institute for Education (UIE)⁷ includes vocational and technical continuing education as one of its important areas of focus. This article places the UIE's work in this area within the context of the Institute's changing and widening role since its foundation nearly half a century ago.

When the UNESCO Institute for Education was founded in 1951 the great Italian educationist Maria Montessori spoke these words at the first meeting of the Institute's Governing Board: 'If the Institute has a justification for existing it can only be the blazing of a new path for education, in which education is a support to the inner life of human beings'.

While the spirit of those words has remained a key *Leitmotiv* for the UIE and its work, the Institute has had to respond to many profound changes in the field of education during the intervening years. Half a century ago most people would have defined education as synonymous with initial formal learning, something that came to an end when one left school or university. Today it is increasingly recognized that education must be seen as a lifelong process. In a world of exploding technical, economic and geopolitical changes, of vast inequalities of learning across nations and social groups, of great unrealized reserves of human potential and creativity, it is clearly essential to provide educational opportunities at every stage of life. It is also clear that education can no longer be restricted to the formal environment of schools and colleges.

Against this background, the UIE describes its task as focusing on adult and continuing education, literacy and non-formal basic education in the perspective of lifelong learning. Equally importantly, the UIE is concerned with wider, overarching themes such as creativity, cultural diversity, innovation and the empowerment of women. Its work can be described under five main headings: research, training, information, documentation and publishing.

The Institute works in close collaboration with the Paris headquarters of UNESCO and with its four sister institutions: the International Bureau of Education (IBE), Geneva; the International Institute of Educational Planning (IIEP), Paris; and the two new institutes in Moscow and Addis Ababa. It has a Governing Board, consisting of eleven members appointed by the Director-General of UNESCO, which meets once a year to review progress and plan future policy. The Institute is headed by a Director, appointed by the Director-General. About twenty-four

people, from many different countries of the world, are employed by the Institute. The government of the Free and Hanseatic City of Hamburg provides the UIE with premises close to the university in a building protected as a historic monument.

The UIE's work links three spheres that are often separated: research, policy-making and educational practice. It works on the assumption that only by involving the policy-maker, the practitioner and various social partners can research have any real impact. Legal, economic and social factors affecting learning feature as much as education systems in the Institute's seminars and workshops. The practical benefits from the UIE's projects are varied. Often they involve the collection and analysis of data that can have important implications for educational policy. Examples include the UIE/OECD survey examining patterns of adult education participation, carried out in eleven industrialized countries, and a project studying trends in legislation and policies affecting adult learning. Another important project currently underway is an international policy survey, involving twenty countries. Subjects covered by other UIE projects range from the promotion of democracy in Africa to gender education, and from environmental adult education to the promotion of creativity in basic education.

In developing and carrying out its projects the UIE works with international networks of individuals, universities, research institutions, government bodies and NGOs. In addition to the researchers on its staff, the UIE also accepts research fellows from Member States of UNESCO who come to Hamburg for periods of two to six months to use the Institute's facilities and participate in its seminars and workshops. The UIE's Documentation Centre and Library holds over 55,000 books and documents and carries some 300 journals on education, social science and related subjects. Every year the Institute publishes a range of books and reports related to its research work. In addition it has edited, since 1955, the *International review of education*, the longest-running international journal on the comparative theory and practice of formal and non-formal education in the perspective of lifelong learning.

CONFINTEA

An important landmark in the development of the UIE was UNESCO's fifth International Conference on Adult Education (CONFINTEA), held in Hamburg in July 1997, in which UIE played a major role. The wide thematic spread of the conference underlined the fact that learning goes far beyond the traditional 'education' sector and encompasses virtually every area of life. Participants addressed adult learning at the workplace, in homes, in prisons, among minorities, among the ageing population and in indigenous communities. They discussed issues ranging from the furthering of peace and democracy to literacy promotion, and from women's empowerment to the impact of new technologies. CONFINTEA thus marked a radical shift in the world's conception of adult learning. Its challenging motto 'Adult learning: a key for the twenty-first century' underlined a belief that the learning capacity of human beings will be central to the task of shaping the new century and the new millennium. The conference resulted in two key policy statements, the

Hamburg Declaration on Adult Learning and the Agenda for the Future. Specific recommendations included encouraging countries to adopt an 'Adult Learners' Week' and the promotion of a universal right among adults to one hour a day for learning. The Institute is now involved in the follow-up to the conference. A series of regional forums are being held to monitor the implementation of the CONFINTEA recommendations at the national, regional and international levels.

One of the major themes addressed by the conference was 'Adult learning and the changing world of work', which was the subject of some intense brainstorming at a series of workshops involving participants from labour organizations, international development agencies, ministries and training institutions from many different countries. The *Agenda for the Future* states:

The changing world of work is a multifaceted issue of enormous concern and relevance to adult learning. Globalization and new technologies are having a powerful and growing impact on all dimensions of the individual and collective lives of women and men. There is increasing concern about the precariousness of employment and the rise of unemployment. In developing countries, the concern is not simply one of employment but also of ensuring secure livelihoods for all. The improvement needed in terms of production and distribution in industry, agriculture and services requires increased competences, the development of new skills and the capacity to adapt productively to the continuously changing demands of employment throughout the working life.

Recommendations included the full recognition of vocational skills acquired informally, the provision of education for workers in the informal economy, as well as women and migrant workers, and the promotion of gender-sensitive approaches in work-related education.

THE INTERNATIONAL CONGRESS ON TECHNICAL AND VOCATIONAL EDUCATION

At the time of writing, the UIE is among the institutions preparing to take part in UNESCO's second International Congress on Technical and Vocational Education, to be held in Seoul, Republic of Korea, from 26 to 30 April with the title 'Work, education and the future'. To prepare for this event, a seminar was held at the UIE in February on 'The future of work and adult learning', bringing together twelve experts on vocational education from many regions. The impact of globalization was one of the main topics of discussion. While it was recognized that vocational education and training must adapt itself to meet the challenges created by globalization, many participants also felt that people should be encouraged to develop a critical and analytical perspective on the subject. Rather than allowing one set of industrial practices to dominate the globe, it is necessary to develop new paradigms that respect the work systems of all communities and cultural contexts. Full learning opportunities should be extended to groups who at present have few rights to work-related education – including women, migrants, retired people, workers in the

informal economy, and the unemployed. Indeed, there should be no formal barriers to people returning to vocational education and training. It was also emphasized that, while the role of the State in work-related education has everywhere diminished, it is important that the State should not withdraw from its obligations in this field but should work together with unions and organizations of civil society in developing strategies based on the realization that vocational education has to be a continual, lifelong process for all. These were some of the issues that the UIE was preparing to take to the Seoul meeting and, in particular, to the round-table that it will organize on 'The future of work and adult learning'.

For the future, the UIE is planning a project to help reinforce national capacity in adult learning in informal economies. At the same time, the UIE sees vocational continuing education and training as closely linked with the other areas of its work, whether it be in the field of literacy, gender equality, environmental education or the promotion of democracy.

Notes

1. For detailed information about the ILO Training Centre's programming and services, visit the ILO Centre's website at: <http://www.itcilo.it>
2. For detailed information about its programming, visit the UN Staff College's website at: <http://www.itcilo.it/unscpl>
3. Joseph Stiglitz, Responding to economic crises: policy alternatives for equitable recovery and development. Speech delivered at the North-South Institute Seminar, Ottawa, Canada, 29 September 1998.
4. The ILO Declaration on Fundamental Principles and Rights at Work includes: (a) freedom of association and effective recognition of the right to collective bargaining; (b) the elimination of all forms of forced or compulsory labour; (c) the effective abolition of child labour; and (d) the elimination of discrimination in respect of employment and occupation. In his speech to the Global Economic Forum in Davos in January 1999, the UN Secretary-General, Kofi Annan, called for a global compact on adherence to core human rights, core labour standards and core environmental practices. Similar thinking underlies a growing movement encouraging enterprises to establish a triple bottom line: financial, social and environmental.
5. 'Knowledge for Development' was also the title of the 1997 Toronto Conference organized by the Government of Canada and the World Bank and co-sponsored by a large number of international and national development-oriented organizations. The resulting website—www.globalknowledge.org—provides a forum for continuing the debate and exchange started in Toronto, and links up with initiatives taken since.
6. World Bank, *World development report 1998/99—knowledge for development*, New York, Oxford University Press, 1998; ILO, *World employment report 1998–99—employability in the global economy. How training matters*, Geneva, ILO, 1998; OECD, *Investment in human capital*, Paris, OECD.
7. Full details on the UNESCO Institute for Education can be obtained from: UIE, Feldbrunnenstrasse 58, 20148 Hamburg, Germany. Telephone: (49) 40-448.04.10; Fax: (49) 40-410.77.23; E-mail: uie@unesco.org; website: <http://www.unesco.org/education/uie/>

TRENDS/CASES

THE SOCIAL KNOWLEDGE

OF CHILDREN:

PSYCHOGENESIS AND

SOCIAL REPRESENTATIONS¹

José Antonio Castorina

The study of the conceptual change of social notions among students is becoming of great importance to specialists in the teaching of the social sciences, as well as to psychologists dealing with the problems of knowledge. It is interesting, on the one hand, to ascertain the epistemic distance between students' previous knowledge of social institutions and the scholarly 'instituted' concepts of social sciences, and on the other hand, to determine the cognitive processes which could make it possible to modify that knowledge in the direction of the concepts.

It should be pointed out that the meaning, structure and origin of the previous ideas, as well as the mechanism of their transformation during teaching, have not been satisfactorily elucidated for knowledge about the study of nature, which is where the major part of the research came from (Strike & Pozner, 1993; Caravita & Halldén, 1994; Carretero, 1995). The fact that studies on social notions are very recent, together with the methodological difficulties in investigating conceptual change in a teaching situation, raises serious questions for researchers (Castorina, Lenzi & Aisenberg, 1997).

The teaching process oriented towards promoting conceptual change affects

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the social ideas already acquired by students, obliging them to ascertain their nature, how they are constituted, their degree of organization, whether they prevent or facilitate the acquisition of disciplinary knowledge, and whether restructuring is feasible.

This previous social knowledge raises a central question for researchers. To what extent does it derive from specific processes, differentiated from other types of knowledge; and to what extent does it derive from the general intellectual development which applies to the social content?

Some Piagetian researchers have explained the social knowledge of the structural development of intelligence. Children's ideas about social institutions (normative systems or economic relations, for example) derive from access to stages of thought common to physical or biological knowledge (Furth, 1980).

Examining the construction of social ideas resulting from intellectual development, social psychologists (Moscovici, 1990; Duveen & Lloyd, 1990; Emler & Ohana, 1993) have focused the acquisition of social knowledge on the transmission to children of existing social representations.

Children's social knowledge does not stem from a deliberate activity of individual construction, but from sharing their group's metaphors during social interactions or in the course of the group's institutional practices.

In the teaching of social sciences, the promotion of conceptual change is being viewed as a modification of students' social representations (pertaining to politics or institutional norms) in the direction of disciplinary concepts (Guyón et al., 1993; Moniot, 1993).

This article sets out to discuss what appears to be an alternative: previous knowledge is either the work of individual intelligence or the appropriation of social representations originating from different institutional practices.

To that end, we shall present a psychogenetic version of certain elements of social knowledge relating to the conceptual specificity of notions established during childhood, as well as to the validity of the general explanatory processes. We shall outline a constructivist version in terms of the specificity of the interactions between the subject and the object of knowledge.

The critical arguments of social psychologists raise a major problem, namely whether the psychogenetic programme is in a position to incorporate social representations into its conceptual system. And what would be the educational consequences of assuming opposition to or compatibility with the psychosocial perspective?

The epistemological hypotheses which can be formulated regarding the specification of social knowledge and its relations with representations must at least be consistent with the results of empirical research. In that respect, we shall mainly refer to our work on authority in school (Castorina & Lenzi, 1992; Lenzi & Castorina, 1996).

Social knowledge from the constructivist perspective

First of all, it is important to emphasize the Piagetian epistemological perspective that has dominated our empirical research into certain types of social knowledge: how knowledge is transmitted from a lesser to a greater degree of validity, i.e. how subjects re-organize the arguments in their own way, or whether this is done on the basis of a construction proposed by others. In particular, what is the process whereby a certain social rationality is constructed, for example a legitimization due to normative acceptance of the actions of authority asserted by a subject, or its conceptual approximation to the understanding of institutional normativeness.

The main point of questions about the modification of the object of knowledge on the basis of the subject's activity is the foundation of the thematic and methodological choices of psychogenetic research into authority at school. Social knowledge grows progressively, and with considerable difficulty, because of the subject's constructive processes during interaction with the social subject. We believe that the nature of some knowledge of the social environment makes it possible to engage in a dialogue with social psychologists.

We shall introduce some results of empirical research in order to describe later on children's specific knowledge about authority in school.

Interpretation of certain empirical results

The study in question was related to the psychogenesis of children's notions regarding authority at school and was carried out with a group of children from middle-class and working-class backgrounds, aged between 6 and 13 (Castorina, Fernández & Lenzi, 1991; Castorina & Lenzi, 1992; Lenzi & Castorina, 1996).

The social sciences have provided us with the present position concerning theories about authority, particularly the work of Weber (1984). His description of the forms of political domination with regard to the school lent epistemic relevance to the key questions asked of the subjects, and guided the preparation of the categories of analysis of empirical facts.

The study of the subjects' responses to questions about different dimensions of school authority (role of the school, the headteacher and the teachers, the hierarchy of authority, its limits, and the legitimization of its actions) could be summed up as follows: a global approach concerning its importance as seen by small children; for example, the inarticulate and vague description of the headteacher's functions is related to a poor hierarchical relationship with the teachers.

The children in the study attempted to give the source of the legitimization of the authorities through the hypothesis of the owner: the authority of the headteacher derives from an owner who appoints him (or her) to buy the school and to pass on 'what can be done' by means of notices (a 'proto-normative').

This hypothesis lends coherence to ideas about various aspects and is their

organizing framework. In so doing, it makes the headteacher hierarchically dependent on the owner, and that person sets the limits of his actions and legitimizes his authority. The children's arguments establish the legitimacy of the headteacher in the 'heritage' and the 'tradition', referred to by Weber.

On the other hand, among children who express more advanced ideas, we are faced with a totalizing approach to the main dimensions of authority. School is an institution whose function is to teach. This view is consistent with the idea of people's pre-existing responsibilities and is quite different from the carrying out of actions—responsibilities being hierarchically ordered within the school.

However, relations between authority in school and authority outside school are still not well structured: the municipality (as centre of the school jurisdiction) stipulates the 'personalized' manner.

Previous analysis of the systematic nature of responses made it possible sketch out a rough outline of the formulation of 'theories' about children, inspired by Carey (1985). To a lesser degree with respect to their use in science, these theories are composed of a postulated domain of entities and their relationships. With respect to the latter, the children give explanations for 'reasons' concerning the legitimacy of acts of authority, in which articulate notions appear.

According to the minimalist theory, the entities are people, fragmented activities of the authorities, and physical and observable objects of the school (some were invented, like the 'owner'). The children provide explanations designed to justify or invalidate the prescriptions—for example, to the question 'Who authorized the headteacher to run the school?', they answer for patrimonial reasons (the purchaser the school). The owner hypothesis is a central one since it makes it possible to explain the limits of the hierarchy and the legitimization of the authorities.

The more advanced children outline a maximalist theory: for an environment of objectivized relationships and non-observable entities (institutional responsibilities and norms), explanations are given in terms of hierarchized responsibilities and moral principles about the reasons for and limits to authority. The hypothesis of 'responsibility' has an articulating role in the explanations, but only with regard to relations within the school.

Finally, we may speak of a transition period, which among children from a middle-class background provides a progressive systematization of the functions of the authorities, but without any sustained advance in the legitimization and limits of authority (Lenzi & Castorina, 1996).

In view of the school's circumstances, working-class children are unable to hypothesize about responsibilities, and they regard the headteacher's role as that of providing assistance: one of his functions is 'to go and look for the children at home so that they will study'.

Cognitive processes and social interactions

Certain epistemological hypotheses are relevant to the debate with social psychologists (Castorina & Gil Antón, 1994; Lenzi & Castorina, 1996; Castorina, 1997).

To propose levels of conceptual construction is consistent with the Piagetian programme. Requests for relative stability in the process of cognitive equilibrium are verified both in the formation of logical systems and in the hypotheses and 'theories'. On the other hand, the hypothesis of the hierarchy of responsibilities assumes that there is a certain order; or that in order to interpret the relationships between the systems of norms, hypothetical-deductive thinking is assumed. Depending on the institutional problems, children use their possible conclusions to arrange the social content of interaction with the object. The children's theories are constructions with their own density, appropriate for grasping the content, without omitting to include a logical organization.

Some provisional comments on the process may be made, extending from personalized relations to the abstraction of objective relationships. Basically, there is a presumption of originality in the subjects' ideas: belief in an 'owner' or in 'proto-normativeness' is the result of a conceptual elaboration. Since it is impossible to imagine a normative system without assimilating other information concerning the levels of hierarchy, these hypotheses are obtained. The same ones lend a certain coherence to ideas about the various dimensions, functioning as an organizational framework. Difficulties have been noted in the cognitive process of our subjects. 'Pseudo-necessities' are emphasized by them—the Piagetian version of the epistemological obstacles of Bachelard. This relates to a lack of differentiation between 'be' and 'must be'—between the normative and the artificial; our 'patrimonialistic' subjects cannot distinguish between 'what they have to do' and the guidelines for what is actually done. In particular, the transition processes emphasize the fact that re-organization of initial ideas must overcome the obstacles 'that thought puts in the way of thought'. On the whole, our results reveal a difficult conceptual reconstruction extending from the abstraction of the strongly personalized general properties to normative abstractions. At the first level of conceptualization, the notions about functions and the hierarchy of authority are focused on people's attributes and their acts. The owner's authority is derived from his heritage, and not from his integration into a system. The subjects are situated at an intra-objective level of analysis. However, we have seen in the more advanced children the beginning of an analysis in terms of system, which is evidenced by the order of responsibilities and functions, in their 'must be', which is distinguishable from its execution, as well as in the articulation of the functions relating to institutional objectives. The subjects pass from local explanations (intra) to other, more relational ones (inter), noted by Piaget and García (1982), as in other fields of knowledge.

The main epistemological question is how to portray the 'social experience' as far as it has an influence on the children's theories. In other words, it has to do with defining the specific features which require the subject-object interaction for certain forms of social knowledge.

We noted in our research (Castorina & Gil Antón, 1994) points in common with certain elements of contemporary social theory (Giddens, 1984; Habermas, 1987; Ellias, 1983). First of all, in the underlying interaction of the understanding of authority, the children assume an intentional reciprocity with other institutional

actors, teachers and headteachers. In this way, they interpret institutional intentions. In this respect, we would like to emphasize a crucial point: interactions with nature may be described as metaphorical, since the object only accepts or rejects the meanings attributed by the subject. However, in understanding the school's regulations, there is an activity of the social object as soon as there exists an explicit intention of eliciting an effect on children's behaviour. Secondly, the normative meanings of authority are not directly expressed, but through the mediation of the symbols of authority. In other words, the children's interpretations concerning the regulations and their legitimacy are achieved through school rituals, gestures of authority, prescriptive actions or even the physical layout of the school. In a broad sense, such actions and configurations do not refer in themselves to normative meanings, since the children cannot infer them directly. Thirdly, the children's search for the meanings of the prescriptions is supported by the meanings of the possible actions of the authorities for them. When trying to deal with the interpretation of the symbols, it has to be borne in mind that '(the authority) can do whatever it likes'; and this interpretation is part of an intrinsically asymmetrical exchange of communication.

In this way, the original impressions of the children about authority and the process by which it is established come into being in the context of the interactions with the object called 'authority'. The subjects are active producers of conceptualizations about the normative object, when the latter makes them an object of its action (Castorina & Gil Antón, 1994).

In our opinion, 'essential tension' characterizes the specificity of social knowledge, starting from actual and direct relations with normative activities. It is only in this context that abstractions are produced, together with awareness of the significant relations or the invention of observables.

The social psychology of representations

Social psychologists (Moscovici, 1990; Duveen & Lloyd, 1990; Emler, Ohana & Dickinson, 1990; Emler & Ohana, 1993; Emler & Dickinson, 1993) have presented a different version of the psychogenetic studies of social knowledge.

We would like to point out that the concept of social representation is located at the crossroads of the psychological and the social, including elements of social and affective origin, and integrating social relations with cognitive aspects of language and communication (Jodelet, 1989).

Without doubt, given such complexity, it is difficult to provide a definition that would prevent inconsistencies and ambiguity (Moscovici, 1988). On this point, the logical *status* of the concept has been vigorously questioned (Jahoda, 1988). It has been intended to specify the structure and the social urgency of the representations (Abric, 1994; Moliner, 1996), and the preparation of a theoretical synthesis has even been called for. Thus, the full version to which we will refer has a heuristic value and the merit of re-introducing context and social practices into psychological research.

It concerns a type of common knowledge, with cognitive and value-conferring aspects, which guides behaviour and enables communication between the members of a group or institution.

The representations are analysed as practical knowledge, which expresses the needs and values of the group, for which the appropriation of the social object includes gaps due to the codes, values and social obligations of individuals, i.e. distortions or suppressions of the object's attribute (Jodelet, 1989).

It is carried out by means of two fundamental processes: objectivization and anchorage. In the first case, the abstract becomes concrete, and the relationship between concepts and images is established, and between words and phenomena. In the second case, what seemed strange becomes familiar, i.e. the figurative system formed makes it possible to re-interpret disrupted situations within the group's categories (Palmonari & Doise, 1986).

An alternative to the appropriation of social representations and the psychogenesis of notions?

Social psychologists' main theories about children's social knowledge have been presented as an alternative to the psychogenetic perspective (Moscovici, 1990; Emler, Ohana & Dickinson, 1990; Emler & Ohana, 1993; Emler & Dickinson, 1993). The latter has been regarded as a version that emphasizes structural construction in individual spontaneity, without being attentive to the peculiarity of social interactions and independently of the transmission of social metaphors.

We propose now to discuss this counter-position on basis of the results of our research and the previously mentioned epistemological hypotheses.

First of all, it should be remembered that the psychogenetic perspective defended in this article cannot be reduced to the generalistic structural construction, as perceived by social psychologists. Our subjects have constructed hypotheses and 'theories' to combine the ideas referred to with the contents of the various dimensions of authority. According to social psychologists, ontogenesis is a way children appropriate their community's social representations, from which their social identity is derived. The children do not acquire the notions independently, as is assumed by the psychogenetic viewpoint, but acquire them during social communication.

The foregoing means that social knowledge is active—not as an internal action of each individual, but as something that is made public, expressed or communicated. Furthermore, the representations come to light and are compared only during social interactions in respect of an object (Moliner, 1996), such as institutional functions or relations. In fact, children compare the institutional representations because of their active participation in the communication process with others.

Thus, in accordance with our focus and our facts, a subject that confronts school norms in a solitary manner is not justified. Children interact communicatively through normative acts, which are symbolically structured, and they interpret them tacitly in actual exchanges (explicitly, in conversations). The children's notions

are created in a context of intentional reciprocity in asymmetrical exchanges with authority, and with strong pressure or institutional restrictions. In short, inter-subjective relations with others or the institutional 'Other' are not external to the constructive process; there is a social experience with the aim of acquiring knowledge underlying the theorization of each child concerning school normativeness.

A second counter-position between constructivism and the transmission of social representations is suggested. The Piagetian programme would be tied to the defence of one spontaneous activity of the subjects, rejecting the relevance of social information.

The position of social psychologists is that the subjects do not spontaneously resolve the problems raised by society, but that they are problems which have already been solved. To know is to appropriate to oneself socially transmitted solutions, or more specifically, solutions that are transmitted by social influence.

The issue is whether constructivism alone can postulate a spontaneous activity to explain the social world, or whether it can produce ideas that support the meanings already given socially.

According to our empirical data, without any relevant information proportionate to the social context inside and outside school, the children could not explain the prescriptions of authority. However, without restructuring the information in a conceptual activity, it would not be possible for them to interpret it or to provide a minimum explanation.

Furthermore, the authorities transmit the meaning of their acts to the children by means of metaphors or social representations in institutional life; not all transmission is explicit, because the gestures, the spatial arrangements and the rituals 'signify without any intention of meaning' (Bourdieu, 1980).

Piaget and García (1982) have shown in respect of some knowledge that the subjects—in daily life or in scientific studies—confront objects that have already been 'interpreted', situated in a social framework of meanings. However, it is an illusion to believe that children may be aware of social objects on the fringes of the social representations that accompany them.

The heart of a psychogenetic study is the manner in which the children succeed—or do not succeed—in rebuilding a normative system from their own experience of it. To solve the problem of the reasons for authority's acts, they must take into account the social representations concerning such reasons.

From a constructivist perspective, one should not emphasize the appropriation of the 'solutions' or the social representations in the search for solutions in the interaction with the object, as has been contemplated (Emler & Ohana, 1993). On the contrary, it is with the objective of explaining the meaning of authoritative acts as agent and recipient that the children relate to the metaphors transmitted. In this way, it is understandable that they convert authority into an object of knowledge and express original ideas: the 'proto-normativeness' left over from the constructors of the school or the hypothesis of the owner, the legitimator of authority.

From the psychosocial perspective, the transmission of the representations do not imply a passive child, one who is subject to social influence and directly incor-

porates the social information (Emler & Dickinson, 1993). However, some negotiation and interaction are postulated between the parties that assume their representations as well as the modification of the social influence of the system of children's beliefs, but these resist them at different levels.

The Piagetian epistemological position and our positions concerning the specificity of social knowledge accept the transmission of social metaphors. But the question here is what the children do with what has been transmitted. In other words, how is it that while transforming institutional pressures into an object of knowledge, the normative acts give their own meaning to the representations they mediate?

Thirdly, the social psychologists' critical arguments suppose that constructivism is intrinsically acultural, i.e. when children have the task of inventing on their account the meaning of the world, here an institutional one. On the contrary, however, according to the constructivist position, children do not create the system of writing, an institutional system or a dominant interpretation in certain instances of culture.

Without doubt, these are products of collective history and not the work of each individual. But we have to avoid the risk of referring to the beliefs of each one as 'thoughts for the collective systems', even though the opposite is sometimes stated; because in that way, the innovation would not be understood, nor would the disagreement, within the culture (de la Peña, 1997). From a psychogenetic perspective, children rebuild the meaning of the current beliefs of their culture, with the instruments at their disposal and according to their own point of view.

Our subjects do not invent the school norms or the social beliefs, since 'the head teacher is a second mother', 'the children who do not behave are expelled' or 'everything has an owner'. Such beliefs are re-interpreted, situated in an argument-based dynamic with the objective of giving a meaning to the acts of authority. If we refer to the minimalist hypothesis of the owner, it can be supposed that the children appropriate to themselves during their life in the community, in a very natural manner, the metaphor 'that everything has an owner'. But they change this representation into arguments explaining the questions about the dimensions of authority. In this way, the specific hypothesis to the effect that the headteacher 'paid the owner of the school' is not proposed as such by the adults, but is testimony to the children's reworking of cultural 'solutions'.

Finally, we will focus on these epistemic features of our subjects' knowledge processes with respect to the positions of social psychologists.

Without doubt, cognitive difficulties depend on the children's actual experience of the institutional restrictions associated with social representations. In particular, the compromise with authority makes it difficult to achieve the distancing required to make an abstraction of the properties of the normative system: what Giddens would call the step from the first to the second hermeneutic (Lenzi & Castorina, 1996). There, we find the imaginary and affective configurations 'of what authority can do to them', or the high valorization of school assistance for working-class children (Lenzi & Castorina, 1996).

Thus, the fact that configurations 'adjust' the elaboration of the childhood hypothesis does not eliminate its strictly epistemic features: the function of the hypothesis of the owner was to 'close' the notions into a system concerning authority according to the information that could be assimilated. Also, the fact that the social restrictions, including the institutional compromise, support the 'pseudo-necessities' does not reduce its significance as an epistemological obstacle. Finally, the subjects re-organize their initial ideas progressively, and with serious limitations, partially overcoming these conceptual obscurities and the personalization of authority.

However, there arise genuinely epistemic problems referred to as how subjects build the 'observables' of the scope of their theories: whether the processes of abstraction can be accomplished themselves, and if so, under what conditions, so as to have access to the normative system; and how to face the conflicts between their hypotheses and the facts that 'they believe they are establishing', or between their own ideas.

Recently, Doise (1993) maintained the insufficiency of the 'inter-individual' cognitive models, studying in particular social knowledge on the basis of the development of individual competences. This relates precisely to the levels of social influence which modulate the social reasoning of the children: the inter-individual processes, with their co-ordination and socio-cognitive conflicts; the different positions of the actors in social relations; and the representations and values of a society or an institution.

Today, psychogenetic studies do not remain 'in someone else's shoes', on the fringes of social interactions. Their particular feature is to rebuild the epistemic processes that occur at a level of social experience not considered by Doise. In addition to the socio-cognitive co-ordinations with others and the transmission of representations, a distinctly epistemological social interaction is stressed, i.e. the symbolically structured relation with the normative actions in the asymmetrical communication with the institutional 'interpreters'. The original ideas mentioned, as well as the obstacles to their modification, derive from the interpretation of the symbols in the specific interactions with the object of knowledge.

During those interactions, the children's compromise with the normative acts that they regard as an object, as well as the pre-existing representations of the ones that they cannot disregard, limit and render possible their conceptual activity.

While locating the children's ideas in the 'essential tension', an explanation of the cognitive mechanisms of its construction is plausible during the social interactions with the object of knowledge. However, Damon's thesis (1983) is questionable or even Etcheita's (1988), according to which all epistemic explanation have to be removed from the development of social knowledge and to be internal, and one must clarify the causality of the inter-individual co-ordinations and the socio-cognitive conflicts.

The horizon of collaboration between psychogenesis and representations

The previous arguments allow the rejection of the idea of an alternative to the psychosocial explanation and the internal explanation for cognitive mechanisms of the notions concerning authority in school. But they also make it possible to weaken the views of Doise (1993) regarding an eclecticism inspired by Potamon de Alejandria: to extract the best positions from the diverse systems, while being reconcilable. For social knowledge, there is no internal and purely individual cognitive system, whose insufficiency as regards explanation is redeemed by invoking the three systems, which would provide a more adequate answer to the problems.

The questions that are asked in genetic psychology and social psychology are not the same. In the former, the question is: How do the subjects switch from hypotheses or theories of lesser value concerning authority to others of greater value? In the latter, the question is: How are the justifications for the social practices integrated by the new members of the institutions?

In order to answer such basic questions, pertinent methodologies of research were designed and expressed by the respective theoretical hypotheses.

In psychosocial research, the interpretative model is validated by introducing social influence as an independent variable with respect to the understanding of the social environment (Mugni & Pérez, 1988). As far as the independent variables are concerned, they are a problem in psychogenetic research: from the constructive and interactional perspective, the external situations do not vary with the independence of the meaning assigned to them by the subject (Castorina, Fernández & Lenzi, 1991).

In psychosocial theorization, since the representations make reference to the objects, the principal interest is in these processes of transmission during the communication and the institutional practices. The privilege of the transmission of social solutions concerning the search for solutions by part of the subjects of the authority problems is also understood.

For that reason, the opinions of the subjects are based on representations and beliefs close to the rules deriving from the institutional practices. For example, children's ideas on the flexibility or rigidity of the use of the rules by the teacher derive from their 'participative' or 'integrative' experience with adults concerning the school rules (Moscovici, 1990). This would be more a question of institutional differences than of conceptual ones (Emler, Ohana & Moscovici, 1987).

The psychogenetic focus is based on the production of concepts and explanations about the legitimization of the acts of authority. The normative arguments and the references to responsibilities are the goal of considerable preparation. However, the emphasis on the arguments and hypotheses, instead of social beliefs, does not mean that they should be disregarded.

The belief that 'everything has an owner' is assimilated and re-organized to answer the questions concerning the hierarchy and the legitimization of the head-

teacher. There are well-founded beliefs (in another institutional environment, 'the president is a benefactor') that the children have constructed their hypotheses, to which the genetic psychologists have to be attentive.

The origin of the representation of the institutional practices, and of their motivational and affective basis, is 'invisible' from the genetic point of view; and as each child constructs original notions during the transmission of beliefs, it is 'invisible' according to the psychosocial problematic.

The feeling of strangeness when faced with situations (what does a headteacher manage?) can shake a child out of his anchorage for a certain representation, to render them familiar again (Moscovici, 1988). But at the same time, and at another level, such situations constitute a problem or a gap that the subjects intend to resolve while creating ideas.

To sum up, the programmes of psychosocial and psychogenetic research are not incompatible, in the sense that the principal hypotheses of one of them do not imply the negation of the others. Furthermore, there is room for possible collaboration on the basis of the compatibility and the minimal recognition of certain common principles—for example, there is no external appearance between an individual and society; society is not considered in terms of 'a thing', but in terms of significant relations in communication; and it is not passive in the transmission of representations or in the cognitive interactions with the institutional object.

Some consequences for the teaching of social sciences

At the beginning of this article, we mentioned the importance of students' social knowledge concerning the promotion of its conceptual change in the direction of the disciplinary knowledge of society, in so far as notions originating from psychogenesis as well as established social representations are converted into 'acquired ideas' in view of the education at school. Some reflections can be set out here concerning the conceptual change in the perspective of the previous discussion.

Since the information from the schools has intervened in the elaboration of children's ideas, we never intended in our research to consider the development of the notions in relation to the disciplinary knowledge of teaching. Another one could be described as the 'ontogenesis' of the social psychologists.

On the other hand, systematic teaching of the set of school norms is not very frequent. Without doubt, there is an implicit or explicit need for transmission by the teacher and the authorities (Haste, 1990).

The value of the research into these notions lies in the fact that they make it possible to grasp the formation of social knowledge associated with a strong institutional compromise, revealing the essential features of any social knowledge. These latter are somewhat obscured in the children's acquisition of institutional rules and norms more external to them, as well as with regard to the ones in the political field.

What could be provisionally inferred from the previous discussion about conceptual change?

The learning of social concepts (political or scholastic ones, for example) consists in a reworking of students' previous knowledge. This can be regarded as the result of the constructivist activity of hypotheses or theories, in social interaction with the object, or as regulated interpretations of beliefs or values pertaining to a cultural framework.

In this way, the associated values and affective dimensions to the shared beliefs (Guyón et al., 1993) resist teaching. The feeling of social identity (for example, in 'the eternity of the nation' or 'the teacher is a second mother') is in conflict with the critics and the required abstractions of teaching.

We have referred to the obstacles revealed by our psychogenetic studies: the 'pseudo-necessities' caused by the cognitive lack of differentiation between the acts of authority and 'must be'; the lack of linkages between individual and general attributes; or the personalization which prevents the abstraction of the properties of the normative system (political or scholastic). These appear at different levels during the learning process, and present teaching with a challenge.

It is relevant to recover this epistemic meaning of the obstacles to the subsequent modification of teaching, keeping in mind that the institutional compromises and the values contribute to sustaining them.

It is important at this point to emphasize the contribution of the psychogenetic focus: the understanding of the ideas which claim to modify teaching, with regard to authority, has evolved by being studied as a product of a huge and difficult construction. During its course, certain representations deriving from institutional practices are part of an 'epistemic' framework that orients children's creations. At the same time, they are assimilated for the creation of the hypothesis about the object.

In the development of children's notions, there are valuable restrictions and compromises that influence the development of the social knowledge. The didactic interventions show the insistence of an epistemic framework of 'personalization' and 'naturalization' of society, and are faced once again with the students' difficulty in distancing themselves with respect to the institutional compromise and in having access to a 'second hermeneutic' of the normative meaning.

The epistemological interpretation of psychogenesis rejects the empirical temptation, namely that the social representations are pre-existing facts which are introduced into the minds of the students, and that the children's theories are simple effects of the regularity of social events.

On the other hand, there are variable epistemic distances between previous knowledge and the concepts of the social disciplines. Without doubt, it is important to point out that their expression and didactic transposition via the teachers also imply an anchorage in the representations and ideological perspectives. On that basis, teachers have to re-examine their own beliefs about 'social agents' shared by the students (Moniot, 1993).

Whatever the epistemic distance may be, we do not have any empirical evidence or convincing arguments to claim two mechanisms of acquisition among students—an empirical one in terms of taking in passive representations or of induc-

tive development of hypotheses for previous knowledge; and a constructivist one, oriented towards disciplinary concepts.

A constructivist position regarding the development of knowledge in sciences, psychogenesis and educational practices postulates certain common mechanisms, such as focuses, cognitive conflicts, forms of intra-analysis and internal analysis, processes of abstraction and thematization.

These explain the interactions with the objects of knowledge and may function in a particular way in different conditions which contextualize the production of knowledge—example, for day-to-day knowledge, the pressures of the social normative object, including the metaphors; and for conceptual learning, the specificity of the contractually organized didactic situations, where the disciplinary knowledge, including its social anchorage, is structured.

The provisional analysis of the relations between psychogenetic and psychosocial studies of previous knowledge provides a basic lesson. The link between the development and social appropriation of the system of beliefs and the building of 'children's theories' is an open horizon of interdisciplinary research. However, our analysis suggests a complex environment for the teachers, in the sense that children's social notions develop in relation to systems of social transmission and of cognitive development. Hence, the conclusion is that for disciplinary knowledge, there is no hope of having a didactic intervention aimed at mere destruction, substitution or transfer of previous knowledge.

Finally, our intention to provide a comparison leaves us with a lesson of epistemological caution. The social representations and the children's 'theories' are researchers' constructs with empirical support whose plausibility in explaining the students' answers requires much research. One thing is certain: they are not social communication data in which they participate, nor are they considered as such in their minds. In studies of conceptual change of social notions, we should not give way to an uncritical use of these constructs, or to its 'reification' while interpreting the learning. The hypotheses must be reviewed and recreated, when they appear, in the proper didactic context.

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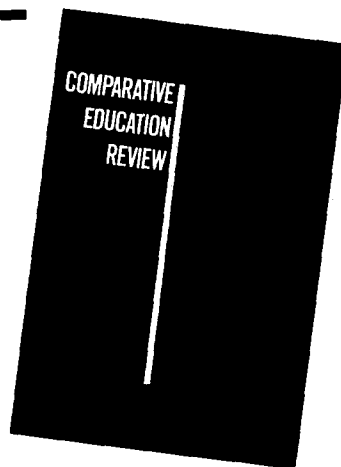
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CONTENTS

Articles

Page

- CHENG KAI-MING: Planning of Basic Education for All 387
H.S. BHOLA: A Discourse on Coherence of Theory and Practice of Educational Administration 403
P.G. VIJAYA SHERRY CHAND and A.H. KALRO: Completion, Retention and Drop-out 417

Research Notes/Communications

- P.K. CHAUBEY and GEETA CHAUBEY: Equity Sensitive Literacy Rates 429
P. J.D. PAUL and P. DANIEL: Determinants of the Selectivity Bias in the Choice of Higher Secondary Schooling 437
VINOD RAINA: Mopping the Floor and Closing the Taps 441

Book Reviews

- N.K. AMBASHT: Perspective on Educating the Poor (Yogesh Atal ed.); A.S. BABU: Education and Democracy (B. Chinara); R.P. SINGH: India and UNESCO (N. Krishnan); NEELAM SOOD: Mental Health in Indian Schools (M. Kapur); S.M.I.A. ZAIDI: Educational Planning and National Development (M.R. Kolhatkar); M.V. LAKSHMI REDDY: Education and Electronic Media (T. Mrunalini); G. BALATCHANDIRANE: Education, Development and Underdevelopment (S. Shukla and R. Kaul eds.); SHRI PRAKASH: Essays on Economic Policy, Methodology and Human Resources (Maya Shah); MALATHY DURAISAMY: Higher Education in India (M.G. Reddy); A. ABDUL SALIM: Educational Administration in Kerala (M.M. Kapoor, T.H. Sreedharan and J.C. Goyal); A. RAJAGOPALARAO: Development Management (T.P. Maitin); JANDHYALA B.G. TILAK: Measuring What People Know (OECD) [and] Human Capital Investment (OECD) 447

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