

# **EDUCATION AND DEVELOPMENT: An Unfinished Discovery\***

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Perceptions of the role of education in development have undergone substantial change over the years, as new evidence and ideas enriched our understanding of the issue. On this matter as with many others, economists have been rather slow in assimilating ideas that were fairly well accepted in other disciplines. The wide-ranging contributions of education to development have won gradual appreciation over the years, and are still in the process of being discovered. This note presents a brief and somewhat simplified account of this unfinished discovery.

## **Education as “human capital”**

In development economics, interest in education began with a recognition of the importance of "human capital" for economic growth. Statistical studies showed that the accumulation of physical capital (the stock of machines, plants, tools, and so on) explained only a small part of the overall rate of growth of different economies. The notion of human capital (skills and education, embodied in human beings) helped to explain why some economies grew faster than others. For instance, the high rates of growth of south-east Asian economies such as South Korea clearly had something to do with their high levels of investment in human capital, particularly the early expansion of elementary education.

This recognition led to many studies of the "economic returns to education", i.e. of the role of education in raising income levels in a country or household. Here education was essentially treated as an investment: you spend money on education, and reap the benefits later in the form of higher earnings. These studies showed that the economic returns to education were typically much higher than the returns to physical investment. In other words, education was one of the best investments one could make. Further, it was found that the economic returns to elementary education were much higher than the returns to higher education.

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These studies played a useful role in highlighting the fact that the economic returns to education were high. This was a valuable insight. Had there been greater awareness of this fact in the early days of economic planning in India (in the 1950s and 1960s), there would have been more emphasis on elementary education and less emphasis on the accumulation of physical capital. Having said this, these studies were associated with a rather narrow view of education, seen mainly as an “investment”. The main purpose of that investment was to accelerate economic growth. The wider roles of education in enhancing the quality of life were missed in this analysis.

### **Education and the demographic transition**

The big departure from that initial view did not come from within economics, but under the influence of demographic studies. In the 1970s and 1980s, demographers noticed that education played a crucial role in demographic change. Initially, the interest was mainly in the effect of education on fertility rates. This was a time of intense concern about the so-called “population bomb”, and the spread of education was seen as a way of reducing fertility rates. But demographic research also showed that education was a powerful force of mortality decline. Today, it is widely acknowledged that fertility decline and mortality decline are part of a common process, known as the “demographic transition” – the transition from high to low levels of fertility and mortality. The spread of education is one of the key factors behind this process.

Demographic studies drew attention to another crucial point which had escaped the attention of economists: female education is often more important than male education. This certainly turned out to be the case in the context of the demographic transition. In India, there is plenty of evidence that female education is much more important than male education in bringing down fertility and mortality. The spread of female education, for instance, has been one of the major forces behind the rapid decline of fertility and mortality in Kerala. In Kerala, 98 per cent of young women (aged 15 to 19) are literate; the infant mortality rate is as low as 14 per 1,000 live births; and the fertility rate is well below the so-called “replacement level” of two children per couple. In contrast, in a state like Uttar Pradesh, barely half of all young women are literate; the infant mortality rate is as high as 84 per 1,000 live births; and the fertility rate

is close to five children per woman.<sup>1</sup> The contrast in demographic outcomes, of course, is not due to differences in female education alone. Other causal antecedents are also at work, such as the higher quality of health services in Kerala. However, recent research suggests that even after controlling for other relevant variables, female education has a powerful effect on mortality and fertility rates.

This is not very difficult to understand from a common-sense point of view. During a recent field survey of the Integrated Child Development Services (ICDS), I was struck by the tremendous advantage that educated mothers evidently had over uneducated mothers in matters of child care and reproductive health. Even five years of education seemed to make a big difference. In areas such as Barmer in Rajasthan, where a vast majority of women are illiterate and have never been to school, young mothers are completely in the dark in matters such as infant weaning, child immunization, contraceptive methods, and so on. Their ignorance in matters of child care is particularly striking, because having babies is something that human beings have done for a long time, and one would have hoped that some sort of “social learning” would have happened in this field over the centuries. In fact, sound knowledge has failed to accumulate over time, and each young mother seems to be learning more or less from scratch.

There is an interesting message here about the limitations of “traditional knowledge systems”, much admired by traditionalist intellectuals. The basic limitation of traditional knowledge in this case is that there is no accumulation of sound knowledge over time, because of the absence of the written medium. Oral transmission of knowledge is very unreliable, as we know from personal experiences of “second-hand” information, the scientific literature on “rumours”, and other sources. In the case of child care, if a literate mother has doubts about (say) correct weaning or appropriate vaccination, she can inform herself relatively easily by consulting posters at the local health centre or reading her child’s vaccination card. An illiterate mother, on the other hand, tends to rely on the advice of her mother or mother-in-law. This is quite unreliable, since the mother or mother-in-law’s knowledge itself tends to come from “learning by doing”, and this would involve generalising from a very limited personal experience.

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<sup>1</sup> Drèze and Sen (2002), Statistical Appendix, Table A3. The reference year is 1998.

The massive advantage of educated women in matters of child care and family health clearly emerges in recent data from the second National Family Health Survey (1998-99). A sample of relevant indicators is presented in Table 1. Whether we look at child vaccination, or knowledge of AIDS, or the use of non-terminal methods of contraception, educated women fare much better than those who have never been to school. Here again, we should not attribute the entire contrast between different groups to differences in female education, since educated women also tend to enjoy other economic and social advantages that help to achieve better health, such as higher incomes and a safer epidemiological environment. However, the overwhelming influence of female education on demographic and health outcomes, even after controlling for other relevant variables, routinely emerges in multivariate statistical analysis.

### **Education and the quality of life**

In due course, all these insights contributed to a rediscovery of the importance of education for development, in a much broader perspective than the initial focus on human capital. In this perspective, development is not just about income and economic returns. Rather, the goal of development is to improve the quality of life, and to expand human freedoms. In that broader perspective, the wide-ranging contributions of education to development come to light.

For instance, if development is about human freedoms, then democracy is an important aspect of development. Indeed, democratic freedoms (for instance, freedom of expression or freedom to participate in political activity) contribute to the quality of life. The exercise of these democratic freedoms, in turn, is very difficult in the absence of adequate education. In order to vote in an informed manner, to take active part in public debates, to hold political leaders accountable, and to enjoy other democratic freedoms, the citizens need education. Or, to put the same point in a different way, lack of education is a major cause of powerlessness in a democratic system.

Here again, the contrast between Kerala and Uttar Pradesh provides a helpful illustration. As Table 2 indicates, the level of political participation is much higher in Kerala than in Uttar Pradesh, whether it is assessed through subjective perceptions (e.g. the respondent's perceived "preparedness to participate") or objective indicators (e.g. the propensity to contact political representatives). This contrast has various cultural, historical and social roots, and it

would be simplistic to attribute it exclusively to the fact that education levels are higher – much higher – in Kerala than in Uttar Pradesh. But it stands to reason that education does facilitate these different forms of political participation, and there is much evidence that the flourishing of democratic politics in Kerala owes a great deal to the state's early accomplishments in the field of elementary education.<sup>2</sup>

The importance of education in overcoming powerlessness applies not just in the context of democratic politics, but also in many other walks of life. For instance, education helps to protect oneself from corruption and exploitation. Education can also help women to overcome the disadvantages they face in a male-dominated society. An educated woman is better placed to achieve economic dependence, to participate in social and political life, and to make her voice heard within the family. Similarly, education can help to eradicate traditional inequalities based on caste. The exclusion of Dalit children from the education system has been an integral part of the subordination of the lower castes over the centuries. Today, access to education gives them one opportunity to overcome exploitation and discrimination. This opportunity was particularly well recognised by Dr. B.R. Ambedkar, one of the most enlightened thinkers of modern India.

Doubts about the empowerment value of education often arise from the conservative nature of the school curriculum. It has been argued, for instance, that education is unlikely to contribute to the emancipation of women, considering that school textbooks and classrooms processes often impart patriarchal values. There is, indeed, much scope (in India as elsewhere) for making the schooling process more liberating. The fact remains, however, that an educated person is better equipped to overcome vulnerability and marginalisation in modern society. It is in that sense that education has considerable empowerment value despite all the shortcomings of the present schooling system. The patriarchal orientation of school textbooks, for instance, does not detract from the fact that an educated woman is better placed to liberate herself from the economic dependence on men that shackles so many Indian women, to gain independent access to information, and to assert herself within the family. Similarly, an educated labourer is comparatively better placed to demand the legal minimum wage, and to resist exploitative work conditions, even if he or she has never heard of Marx at school.

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<sup>2</sup> See e.g. Ramachandran (1996), Drèze and Sen (2002), and the literature cited there.

Even the act of going to school, in itself, is often an important challenge to traditional inequalities. This applies in particular to the schooling of girls, considering the long history of indifference and even opposition to female education in large parts of the country. Similarly, school participation on the part of children from disadvantaged castes is a major challenge to the conservative upper-caste notion that knowledge is not important or appropriate for members of the lower orders.

### **Unfinished Discovery**

In short, education contributes not only to economic growth but also to demographic change, political democracy, social equality, and indeed many other aspects of development. We should also remember that learning is a valuable activity by itself, at least if it takes place in a supportive and stimulating environment.

Over the years, economists have learnt to recognise the wide-ranging roles of education in development, going well beyond the initial focus on economic returns. But I believe that they still have some way to go. The journey of discovery is not over. For instance, we have barely started thinking about ethical progress as an aspect of development, and about the role of education in this respect. Yet ethical progress has become indispensable for further progress in other fields. Today, our level of ethical development is way behind our economic or technical development, and this gap threatens the future of humankind. This gap is most evident in the field of military research: we have achieved the capability of producing terrifying weapons such as nuclear bombs, but we do not have the ethical maturity required to make responsible use of these capabilities. The same applies in many other fields, from information technology to genetic engineering.<sup>3</sup>

In achieving the required ethical maturity, education has an obvious role to play, since education is part of the socialisation process through which our basic values are formed.

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<sup>3</sup> As Tagore vividly put it in one of his lectures on nationalism: "... Thus man, with his mental and material power far outgrowing his moral strength, is like an exaggerated giraffe whose head has suddenly shot up miles away from the rest of him, making normal communication difficult to establish. This greedy head, with its huge dental organisation, has been munching all the top-most foliage of the world, but the nourishment is too late in reaching his digestive organs, and his heart is suffering for want of blood." (Tagore, 1991 [1917], pp. 68-69.) For similar ideas, especially in relation to the persistence of violence and militarism in the contemporary world, see Rapoport (1995).

Whether education actually plays this enlightening role, however, depends on the content and quality of the schooling process. As things stand, education (or rather schooling) does very little to advance our ethical standards. If education is to contribute to humanity's ethical development, and not just to economic development, it will have to be of a very different kind from what goes on in most schools today.

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**Table 1****Women's Education and Health Care**

<b>Part 1: Health-related indicators, for different levels of education</b>				
	<b>Educational level of the respondents</b>			
	Illiterate	Literate, but below "middle school complete"	Middle school complete	High school complete and above
Proportion (%) of women who have heard about AIDS	18	54	74	92
Proportion (%) of women using any modern contraception method other than sterilization	3	7	12	20
Proportion (%) of women who had an antenatal checkup before their last delivery	51	80	86	94
<b>Part 2: Child health indicators, for different levels of maternal education</b>				
	<b>Educational level of the mother</b>			
	Illiterate	Literate, but below "middle school complete"	Middle school complete	High school complete and above
Proportion (%) of children aged 12-23 months who are fully vaccinated	28	52	63	73
Proportion (%) of children aged 12-23 months with no vaccination at all	21	8	5	1
Proportion (%) of children aged below 3 who are severely undernourished <sup>a</sup>	24	13	11	6

<sup>a</sup> Based on weight-for-age data (below 3 standard deviations of the median of the international reference population).

Source: International Institute for Population Sciences (2000), pp. 136, 207, 231, 269, 283, based on a large-scale survey of ever-married women in the 15-49 age group.

**Table 2****Education and Political Participation in Kerala and Uttar Pradesh**

	<b>Kerala</b>	<b>Uttar Pradesh</b>
<b>EDUCATION</b>		
<b>Literacy rate, age 7 and above, 2001 (%)</b>		
<b>Female</b>	<b>88</b>	<b>44</b>
<b>Male</b>	<b>94</b>	<b>71</b>
<b>School participation in the 6-14 age group, 1998-99 (%)</b>		
<b>Female</b>	<b>97</b>	<b>69</b>
<b>Male</b>	<b>97</b>	<b>83</b>
<b>POLITICAL PARTICIPATION<sup>a</sup></b>		
<b>Proportion (%) of respondents who:</b>		
<b>Contacted an elected representative during the preceding five years</b>	<b>55</b>	<b>3</b>
<b>Participated in a campaign during the preceding five years</b>	<b>39</b>	<b>12</b>
<b>Proportion (%) of respondents who feel that they:</b>		
<b>“understand issues”</b>	<b>79</b>	<b>28</b>
<b>“have enough information about politics”</b>	<b>64</b>	<b>22</b>
<b>“are well-prepared to participate”</b>	<b>42</b>	<b>26</b>

<sup>a</sup> Based on a household survey undertaken in 1998 in seven localities of each state (100 randomly-selected households in each locality); for details see Blomkvist (2000a, 2000b).

Source: Drèze and Sen (2002), p. 93 and Statistical Appendix, based on Census of India 2001, International Institute for Population Sciences (2000), and Blomkvist (2000a, 2000b).