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DOCUMENT 6**Comparative Costs of Open and Distance Learning and Conventional Teacher-Education Programs**

This extract, from a 1997 World Bank publication, looks at the available data on comparative costs. The main focus is on pre-service and upgrading qualification courses (little work has been done on the comparative costs of CPD by open and distance learning and by conventional provision). The analysis reveals the limits of economies of scale when local support is provided. Further, a supervisory structure also increases the variable costs of the program.

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4.1 Is distance education cheaper or more expensive than conventional education? The answer to this question is complicated because of the differences between the economic structures of distance and conventional education and because of the poor quality of the data.

Comparative Studies and their Limitations

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4.2 The pattern of expenditure for distance and conventional education varies with different relationships between fixed and variable costs. In conventional education, staff costs are generally the largest single item in a budget. They tend to vary with the number of students because education is a labor-intensive activity. However, in distance education, teaching can be recorded in advance, reproduced, and distributed to large numbers of students. While significant costs are incurred in developing the teaching materials, the costs of teaching one additional student may be modest. Distance education is thus more capital intensive than conventional education and has higher fixed costs, mainly for the development and production of teaching materials; but has lower variable costs, as fewer face-to-face teaching hours are devoted to each student or group of students. Within distance education, it is therefore possible to expect some economies of scale as the number of students increases. At the same time, supervised teaching and student support generally do not allow these economies of scale. These costs are likely to vary directly with the number of students.

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4.3 In comparing the costs of conventional and distance education or the consequences of expanding or contracting a program, it is not accurate to

simply take annual expenditure for the two modes of study and divide it by the number of students. (In any one year a significant proportion of the costs of distance education may be to develop teaching materials that are used over a number of years.) Instead, more sophisticated comparisons are needed. Two main approaches are used. One analyzes the cost per hour of study for different modes of education. The other tends to look at the comparative costs of following a course of study or obtaining qualifications through different methods of study.

4.4 **4.4** These make it possible to reach some sound conclusions about how distance education compares with alternatives. At the same time, the conclusions must be qualified as they are based on data of varying quality. One review noted the following inconsistencies that must be reconciled:

- Studies of distance education vary in the extent to which they include capital as well as recurrent costs.
- Institutions vary widely in their organizational structure, choice of teaching media, and preference for employing staff in teaching rather than in administrative or research positions.
- There are often significant differences in social and educational backgrounds of students in conventional and distance-education institutions.
- A number of comparative studies have looked at costs per student without citing graduation rates.

Costs and Outcomes

4.5 **4.5** Six conclusions can be drawn [...] from the cost-effectiveness studies:

4.6 **4.6** First, under certain circumstances distance education is cheaper than conventional education. Where it has been possible to measure effectiveness, distance education has been shown to be more effective and cheaper than conventional education. Distance-education programs can be designed for teachers at a cost of between one-third and two-thirds of conventional programs. To some extent, in Pakistan or Tanzania, for example, this is because they have operated at a large scale and have often achieved high completion rates. Typically these were programs in which successful completion guaranteed more pay. High completion rates narrowed the gap between the cost per student and the cost per graduate.

4.7 **4.7** This finding is consistent with other reported data. In China, for example, where only limited data were available for a comparison between

the cost of the Radio and Television Universities (RTVU) and conventional education, Wei and Tong suggested that the RTVU system was probably “saving a third of the cost of producing a conventional graduate,” (1994: 98). Although it used a different methodology from most other studies, the findings are consistent with a review of teacher upgrading through distance education in southern Africa [...] (Taylor 1983: 30).

4.8 **4.8** Thus, in a number of the cases where reliable data are available, distance education has achieved the economies of scale that allow the cost per student to fall below that of alternatives.

4.9 **4.9** Second, some distance-education projects were too small to show economies of scale. Three of the projects (Kenya, Nigeria, and Uganda) did not show dramatic economies as compared with conventional programs of teacher education. Indeed, it was probably more costly to produce examination passes through the early distance-education program in Kenya than in conventional schools. Still, the program reached remote teachers who could not be taken out of the classroom for full-time education. There were similar benefits to the recent small-scale project in Uganda. These projects had enrollments between 500 to 3,000. In contrast, the comparative costs of a number of larger distance-education programs have been much more favorable.

4.10 **4.10** Third, one of the major economic advantages of distance education is that it does not demand full-time residence or attendance at a college over a period of years. Thus, a distance-education program is likely to result in a number of different savings in public expenditure, including the cost of providing residential colleges or of paying students a maintenance allowance while they are at college. Students in Ghana, for example, receive a living allowance if they attend university to follow a B.Ed. course but none for a parallel distance-education course. The cost of student residence is reduced when students attend a college for face-to-face sessions only occasionally or for shorter periods than in conventional full-time programs, and colleges are used more intensively.

4.11 **4.11** Fourth, the savings in the cost of residence and the economies of scale made possible through the use of communication media have brought the unit costs of many distance-education programs below those of alternatives. However, there are limits to the economies of scale where there is a significant element of supervised classroom teaching. Extensive support for students or supervision of teaching practice necessarily raises the variable cost of programs. Supervision and support costs rise in

proportion to the number of students so that economies of scale are not possible for this element of the program.

- 4.12** **4.12** Fifth, the comparison between the costs of distance and conventional education in part reflects the high cost of conventional methods of teacher education. Lockheed and Verspoor, in commenting on the high cost of teacher education, have suggested that if the content of teacher education and secondary education are similar, it would be cheaper to provide that education through secondary schools (1991:96). The Tanzania teacher-training scheme is a striking example of these points; its costs look dramatically high for a low-income country and demonstrate both the high degree of face-to-face supervision provided to the distance-education students and the high cost of conventional teachers' colleges.
- 4.13** **4.13** Sixth, there are considerable opportunity costs for part-time students. Some of the costs are social: Students spend less time with their children, spouses, or friends. Others are financial: Teachers pursuing a part-time degree in both Kenya and Nigeria reported that their time could have been spent providing paid tuition (Perraton 1993:288). Their opportunity cost was a real one, easily measured in shillings or naira.
- 4.14** **4.14** The opportunity costs of various modes of study may fall on students or their employers. One of the attractions for employers of the National Technological University in the United States, which trains at workplaces, is that it eliminates the opportunity cost of travel time. In conclusion, a cost-effectiveness analysis of distance education must also consider the value of learners' time and determine who pays that opportunity cost.
- 4.15** **4.15** In cost, the evidence consistently shows that distance education compares favorably to conventional alternatives for obtaining teacher qualifications. In interpreting the data, it is important to consider the opportunity cost of studying at a distance and the question of who is meeting this cost. Furthermore, while it is legitimate to compare the costs of obtaining the same qualification through different kinds of programs, in a thorough evaluation, one should also be concerned with teachers' post-training performance in the classroom. This question is seldom addressed even with conventional approaches to teacher training and is an area that requires further research.

Source: Perraton, Hilary, and M. Potashnik. 1997. *Teacher Education at a Distance*. Washington, D.C.: the World Bank.