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The evolution of the character and practice of distance education

If by education we mean the acquisition of intellectual learning matter and cognitive skills, these were fairly exclusive activities until the middle of the nineteenth century or later. Formal education was for very long open only to financially or otherwise privileged groups - which is still the case in a number of developing countries - and was almost exclusively meant for children and youngsters. When in the nineteenth century organised adult education began in Europe and North America the methods of distance education gradually developed to meet needs not easily catered for by other means.

The background of early distance education

While it was - and is - perfectly possible to learn in study groups and by private reading in one's spare time, the need for systematic study alongside paid work could only partly be met in these ways. For many study was - and is - possible only if it does not interfere with jobs by means of which adult students support themselves and their families. Only in thickly populated areas is it possible to organise study groups in the subjects required for university entrance, degree studies, professional qualifications or special training needs arising in industry and commerce.

Education and training became important social concerns in the latter half of the nineteenth century. This - combined on the one hand with liberal thinking concerned with the development of students' personalities, on the other hand with the necessities of livelihood - constitutes the background for the introduction of distance education at that time. It was the need for **study alongside paid work** and for **individual learning** as opposed to classroom learning that was the great instigating force. While presumably quite a few adults preferred individual study, this was in a great many cases the only learning opportunity open to would-be students.

The only media available to distance education during the pioneering period and until the second half of the twentieth century were print, the written word and phonograph recordings. What emerged was what is today regarded as traditional correspondence education. It seems worth stressing, however, that the two basic constituent elements of today's distance education, i.e. mediated subject-matter presentation and mediated student-tutor interaction, were the vital characteristics also of the very early actions to bring about education in situations when students and tutors do not meet.

The pioneers

Evidently, the needs referred to have occurred at other times in history than in the period indicated. People have studied in their spare time much earlier. There is even an indication that distance education may have been provided as early as 1728. In The Boston Gazette of 20 March, 1728, 'Caleb Phillipps, Teacher of the New Method of Short Hand' advertises that any 'Persons in the Country desirous to Learn this Art, may by having the several Lessons sent weekly to them, be as perfectly instructed as those that live in Boston' (Battenberg 1971, p.44).

A hundred years later we find more conclusive evidence of distance education in our sense. An advertisement in English in 'Lunds Weckoblad', No.30, 1833, a weekly published in the old Swedish university city of Lund, offers 'Ladies and Gentlemen' an opportunity to study 'Composition through the medium of the Post' (Bååth 1980, p.13 and Bååth 1985, p.62). Another early attempt to organise distance education was made in England by

Isaac Pitman who reduced the main principles of his shorthand system to fit into postcards. He sent these to students, who were invited to transcribe into shorthand short passages of the Bible and send the transcription to him for correction. This teaching of shorthand combined with a study of the Scriptures began in the year 1840 when in the United Kingdom the uniform penny postage was introduced. In 1843 the Phonographic Correspondence Society was formed to take over these corrections of shorthand exercises. It was the beginning of what was later to become Sir Isaac Pitman Correspondence Colleges (Dinsdale 1953, p.573; Light 1956; The Times of 24 December, 1952).

According to early tradition, organised distance education is assumed to have been introduced in Germany in the year 1856 by the Frenchman Charles Toussaint and the German Gustav Langenscheidt, who formed and organised a school in Berlin for language teaching by correspondence (Noffsinger 1926, p.4). What scope the correspondence actually had is uncertain; students were offered opportunities to submit questions, but, Bååth writes, translating from the Toussaint-Langenscheidt prospectus, 'they were by no means encouraged to do so - "it would hardly be necessary", the prospectus said, "since everything is fully explained in the course" (Methode Toussaint-Langenscheidt 1901, p.10).' (Bååth 1985, p.62; cf. also Delling 1978).

A pioneer of some interest is mentioned by Mathieson as a representative of the 'proto-correspondence study programs' that existed in the United States between 1865 and 1890:

> 'The "mother" of American correspondence study was Anna Eliot Ticknor, daughter of a Harvard University professor, who founded and ran the Boston-based Society to Encourage Study at Home from 1873 until her death in 1897. The idea of exchanging letters between teacher and student originated with her and monthly correspondence with guided readings and frequent tests formed a vital part of the organization's personalized instruction. Although the curriculum reflected the "classical orientation", it is interesting that most of her students were women, a clientele then only beginning to demand access to higher education.'
> (Mathieson 1971, p.1.)

About the same time distance education was introduced in Japan. In an advertisement published in 1898 it was claimed that 'the method of correspondence education' had been 'invented' in Japan in 1882, which seems actually to have been the year when a form of distance education was first applied in Japan (Hisano 1989, p.71).

At the end of the nineteenth century distance education was above all applied on the one hand to university and pre-university study, on the other hand to occupational training. The university extension movement promoted the use of distance education.

Among British pioneering organisations were Skerry's College, Edinburgh, founded in 1878 (preparing candidates for Civil Service Examinations), Foulks Lynch Correspondence Tuition Service, London, 1884 (specialising in accountancy), University Correspondence College, Cambridge, founded in 1887 and preparing students for University of London external degrees (in 1965 this college was taken over by the National Extension College [Perraton 1978, p.1]), and the Diploma Correspondence College, now called Wolsey Hall, Oxford, founded in 1894, preparing students for university qualifications but also offering a wide range of courses on other subjects (Dinsdale 1953).

In the USA Illinois Wesleyan College, founded in 1874, the Correspondence University in Ithaca, N.Y., 1883, and the university extension department of Chicago University, 1890, were amongst the pioneers (Mathiesen 1971, p.3). It can be mentioned that William Harper of Chicago, who has been called the father of American distance education, offered instruction in Hebrew by mail in the 1880s (Vincent 1900).

The early use of distance-education methods in occupational training can be illustrated by an attempt to teach mining and methods of preventing mine accidents which was introduced by a course in 1891 constituting a systematised continuation of an instructional activity begun earlier in a question column in the Mining Herald, a daily newspaper published in the coal mining district of eastern Pennsylvania. The initiator of the correspondence course was the editor of this newspaper, Thomas J. Foster. His initiative met with great success, and the response his course won led to the production of first an extended course of the same type and then to the preparation of a number of correspondence courses in various fields

(Correspondence Instruction 1901). In fact, this was the beginning of the International Correspondence Schools (ICS) in Scranton, Pennsylvania, and their subsidiaries and offshoots.

Later developments show that the provision of both academic and practical occupational study opportunities was to be typical of distance education in the 20th century. Another pioneer illustrating this is Hermods in Sweden, founded in 1898 and later to become one of the world's largest and most influential distance-teaching organisations (Gaddén 1973).

Twentieth-century developments

From these beginnings until around 1970 a steady expansion of distance education occurred without any radical changes but with gradually more sophisticated use of methods and media, for example, audio recordings in language teaching and in courses for blind people and the use of laboratory kits in subjects like electronics, radio engineering etc.

The founding of the British Open University in 1969 marks the beginning of a period in which degree-giving distance-teaching universities with full degree programmes, sophisticated courses, new media and systematic systems evaluation crop up in various parts of the world and confer prestige on distance education (Rumble and Harry 1982). Whereas up to the 1960s the large-scale distance-teaching organisations had - with very few exceptions - been private correspondence schools (one of which - Hermods in Sweden - had since 1959 been an official examining body for its own students), the new period saw publicly supported and established universities and schools becoming more and more important. An outstanding pioneer in this respect is the University of South Africa, which emerged as a development of the University of Good Hope, founded in 1873 as an examining body based on the model of the University of London. It started teaching at a distance in 1946. The University of South Africa was established as a distance-teaching university through a governmental decree of 1962 (Boucher 1973).

What above all gives us reason to regard the early 1970s as a period of change in distance education is the new public recognition since then usually given to this kind of education. With few exceptions, as in Scandinavia, authorities had until then been sceptical. The creation of the Open University in the United Kingdom can be seen as the beginning of a more prestigious era. The image of distance education in several countries changed from one of possibly estimable but often little respected endeavour to one of a publicly acknowledged type of education acclaimed as an innovative promise for the future. In the 1990s some 30 distance-teaching universities are active in various parts of the world.

In the twentieth century distance education has occurred in mainly two forms. One represents a large-scale approach with courses produced for hundreds and thousands of students (student bodies of up to 50,000 for one particular course are known [cf. Holmberg 1995, p.151]) and with tutoring at a distance provided by a number of tutors who need have had no part in the development of the course. The second represents a small-scale approach with the course writer in charge also of the tutoring, in which case courses are developed for small target-groups. Typical examples of the first type are the large correspondence schools and the distance-teaching universities, whereas the second type is typically represented by the Australian dual-mode universities (cf. Keegan 1986, Chapter 8).

In both these types the use of information technology and modern media has led to changes in the presentation of learning matter and, above all, in the student-tutor interaction. It has been claimed on the one hand that the introduction of computers and sophisticated media has meant a revolutionary metamorphosis of distance education, on the other hand that present-day stress on technology represents no more than a fad to be compared with the enthusiasm for programmed learning common in the 1960s. I reject both these views.

There can be no doubt that modern technology has led to great improvements. Search for information in databases and the emerging possibilities to apply hypertext approaches are no doubt promising elements in the presentation of subject matter, i.e. the one-way traffic. Telefax and electronic mail can obviously eliminate the harmful procrastination characteristic of student-tutor interaction in writing. This implies an improvement of distance education that is of an evolutionary rather than revolutionary character. There is no change in the basic conditions: students still mainly study individually at a distance from, i.e.

not on the same premises as, their tutors, the communication is still brought about non-contiguously by media, now, however, at least in part of new kinds. Distance education has simply availed itself of the technical developments of modern society. (cf. Mason and Kaye 1989)

The target groups and their requirements

As indicated at the beginning of this paper adults with occupational, social and family commitments were the original target group of distance education, and this is the one still mainly catered for. These students wish to educate themselves in their spare time either to improve and update their professional knowledge or to widen their intellectual horizons generally, to learn for practical purposes, for instance, applications of computer technology or a foreign language, or to acquire knowledge and insight for its own sake. To the generations that were young when the first correspondence schools and similar distance-teaching organisations started their work, the opportunities they offered were very often the only chances available to compensate for faulty or insufficient early education. Distance education gave - and gives - gifted and hard-working people a possibility to study beside their jobs and other commitments. In some countries it had and may still have a pronounced careerist character. It served and serves upward mobility educationally, professionally and socially.

A new target group has emerged during the last few decades: university students taking individual courses by distance study as parts of degree curricula based on conventional study. Whereas prescribed pacing, the organisation of students in classes or groups as well as adaptation to university or school semesters and holidays are felt to be undesirable and unnecessary restrictions by the first-mentioned, larger category of students, they are largely acceptable and found natural by the new target group. In the latter case distance education is simply a form of distribution.

Understanding distance education

The insistence on classes and pacing seems to represent a typical characteristic of a view of distance education that regards it as a substitute for education face to face. Conventional views of educational planning and organisation induce protagonists of this school of thought to impose the same restrictions on distance study as are usually unavoidable in traditional study: limited geographical coverage, classes of limited size, regular meetings, pacing, division of the year into terms of study, prescribed examination dates, vocations, etc. To the extent that, in systems adopting these limitations, the type of distance education applied is felt to be innovative, it is what Ross (1976) calls innovation within the accepted paradigm.

Once distance education is applied outside the organisational and administrative framework of conventional schools and universities, its potential for extra-paradigmatic innovation becomes evident. Its claim to be a mode of education in its own right is based on this potential. It is possible for each student to begin, interrupt, and complete the study as it suits him/her or as work, health, and family conditions allow, to work at his/her own pace, and to disregard all the restrictions that apply to classroom teaching or group learning.

Thus there are at least two different schools of thought on distance education: one stressing individual study and individual, non-contiguous tutoring, the other aiming at parallelism with resident study and usually including class or group teaching face to face as a regular element. The former can and does serve mass education. It is in this context that the industrial approach described by Otto Peters is important (Peters 1973, 1989). It stresses rationalisation and division of labour in the interest of quality and economy. This approach is partly or fully applied by the large distance-education organisations, whereas small-scale distance education as a rule favours procedures more in line with traditional face-to-face education. Distance education using its full potential as indicated must necessarily be regarded as a separate kind of education which can hardly be described, understood and explained in terms of conventional education.

This discussion overlaps with views of control and independence. Those strongly influenced by conventional education stress control whereas those regarding distance education as a wholly separate mode usually favour far-reaching student independence. While Harper in the 1880s seems to have imposed pacing on students (Vincent 1886), Hermods from the beginning allowed them freedom in this respect

('One student may complete a course in three months and another the same course in two years' [Korrespondens 2 1901, p.29]), and Lighty of Wisconsin in 1915 is very explicit in insisting on student independence:

> 'He (the student) has a fairly definite idea as to what he needs and wants, and often an almost equally definite idea as to what he does not want. He has to be convinced by logic and experience, and not by rule of order, of the position of the teacher, for none of the ordinary compulsions operating in the intramural instruction are effective here. The student makes up his mind quite promptly on an early, if not the first, examination of the lessons or course as to whether it is worth his while...
>
> With the type of student suggested, it follows that there must be changed standards of success and failure for extramural students. A man may go through half or a third of a course and get all he needs or wants to satisfy his original purpose. It would be folly to apply conventional pedagogue standards...'
>
> (From the Proceedings of the first conference [National University Extension] as reprinted in Mackenzie and Christensen 1971, p.21.)

Occasionally the value of attempts to promote student autonomy is queried. Garrison and Shale ask 'whether autonomy is desirable, realistic, or even possible to attain', and believe that 'the usual notion of independence runs a serious risk of obscuring the true nature of education' (Garrison and Shale 1990, p.124). They state their position as 'independence is not an essential characteristic of distance education' (p.129). (See also Willén 1981, pp.249-50.)

The potential of distance education is exploited more or less fully in relation to student autonomy vs. institutional control of students. A careful study of student autonomy and its limits in distance education was carried out in 1990 by Monika Weingartz. Using as her empirical basis the data collected in a FernUniversität international study comprising some 200 distance-teaching organisations (see Graff and Holmberg 1988), she identified an autonomy score, a score of individual control, one of goal-oriented control and one of control by additional media. Her study shows that almost 25 per cent of the organisations studied endeavour to promote a high degree of autonomy, while some 70 per cent of them apply highly individualised control methods, i.e. personal tutoring and counselling. Weingartz' analysis includes contract learning. She concludes that selected individual control measures are essential for student autonomy, that independent study does not imply unlimited freedom but a differentiated guidance of learners engaging students and tutors together and that the need for tutoring and counselling diminishes as students become more independent (Weingartz 1990, p.81). Isaacs writing on computer-assisted learning comes to a similar conclusion: 'In courses aimed at making students more independent as learners a degree of control is placed in their hands; students learn control by practising control' (Isaacs 1990, p.86). On the independence and control concepts see Boud (1988); Baynton (1992); Candy (1987) and Elton (1988).

The picture that emerges reveals a continuum of approaches from almost entirely independent study to fairly strictly controlled learning. The individualisation that has contributed to independence is still a much appreciated reality (cf. 'each student constitutes his/her own class' in Korrespondens 2 1901, p.14) and can now be supplemented by tele or computer conferencing, i.e. group work at a distance.

Conclusion

Distance education is a separate mode of education in its own right. Its typical characteristics were from the beginning and are still mediated student-tutor interaction and mediated subject-matter presentation, media being necessary as students either do not meet tutors face to face at all or do so only to a limited extent. This has constantly favoured individual learning. Students chose and choose distance education either because they genuinely prefer this mode or because they cannot - for reasons of job, family, geographical distance, finance etc. - make use of conventional education. While at the beginning of this century the only media applied were print, written communication and, occasionally, phonograph recordings, today's distance education has a wealth of sophisticated media at its disposal. A new dimension was added when tele and computer conferencing were introduced as they open possibilities for non-contiguous group interaction. What is above all typical of distance education, however, is its almost unique one-to-one relationship between one student and one tutor.

Distance education at the end of the twentieth century is a product of an evolutionary development rooted in early attempts to teach and learn by correspondence. Students' work on their own at a distance from tutors demands a degree of independence, which can be - and often also has been - consciously promoted by the organisations that support students, i.e. correspondence schools, distance-teaching universities and similar bodies.

Börje Holmberg
Emeritus Professor,
Lomma, Sweden.

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