Innovation in Education and the Curriculum for Teacher Training

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In the context of today’s discussions on curricula for teacher training, I propose to apply myself to the question of how the selection of subject matter and the style and organization of training can be suited to the needs and the possibilities of innovation in education. To this end I shall attempt to associate in a conceptual context various notions of innovation, teacher qualifications needed to attain such innovation, and possible elements of a teacher training curriculum designed to develop them. Later in the day, my colleagues will suggest empirical designs for the identification of some such qualifications and curriculum elements. For my part, I shall, in the critical analysis of notions of innovation and their consequences for teacher training, draw upon different, in some instances essentially different, conceptions and emphases of various cultural traditions and upon the different proposed solutions advanced by them, thus availing myself of the help which inter-cultural comparison can render for conceptual clarification.

I shall first (1) deal with applications of the notion of innovation to the educational system and dwell upon certain analyses of the innovative capacity—or incapacity—of this system. Since such analyses often employ the concept of innovation in a restricted technical or organizational and, to my mind, inhibitory sense, I shall next (2) speak of system transcending (rather than just system improving) innovation and of the possibility of education serving social change. In the third place (3) I shall ask what a teacher needs in order to be equal to some of the new tasks and how these necessary qualifications might conceivably be developed by certain emphases in the training curricula.

I. The Notion of Innovation and Its Application to Educational Systems

As is well known, the study of “innovation” has been widely developed in such fields as economics, agriculture, pharmacological industry, whence it has flown over into education as a field of social reproduction. Now it seems that, in following the earlier examples, innovation studies in education have accepted quite a few of their pre-occupations and emphases. Thus, in agriculture for instance, the chief stress of research is upon the diffusion of an innovation—how a new practice is received and introduced, modified or rejected. In fact, innovators are defined as “the first members of a social system to adopt new ideals” (Rogers, 1965). Similarly, early (Mort and Cornell, 1941) and later studies (Miles, 1964) of innovation in education have stressed the conditions of their initiation and management, especially the rate of diffusion and adoption of new devices and new processes.

Furthermore, ever since Joseph Schumpeter’s studies on economic development, innovation in economics has been defined as “the process by which new products and
techniques are introduced into the economic system" (Nelson, 1968). Questions concerning the discovery process and the perceived needs that may have provoked it commanded some attention but persistently remained in the background of innovation research; studies of the over-all contribution that innovation has made to economic growth have been largely inconclusive; questions regarding system goals have been left outside the orbit of such studies.

Now, all this need not concern us here, had not innovation research in education, at least in some countries, followed suit. Miles (1964), to mention just one well-known example out of many, defines innovation as "a deliberate, novel, specific change, which is thought to be more effectual in accomplishing the goals of a system". The goals of the system themselves then are clearly precluded from the process. In fact, Miles goes out of his way to exclude from his investigation "reform" as "involving a large-scale change, often involving a structural shift, with a strong melioristic over-tone". "Wholesale changes in teacher education", he writes with his tongue in his cheek, "if they are ever achieved, might more legitimately be labelled a reform, since the elements of moralism, housecleaning, and broad structural change all have been or might be present".

One should not quarrel over terms which are, of course, a matter of convention. One might have let innovation be one thing, reform another. It is my contention, however, that the whole issue of change in the educational system is constantly being obscured by a common failure to face the real problem, by a tendency to speak of innovation in the sense of renewal, including "value orientation change" (Miller, 1967), while in reality tackling only a very restricted operational aspect of it.

Now, I do not wish to depreciate that whole body of diligent research devoted to questions of "resistance to change" and of ways to reduce it, in the more strictly operational sense. To loosen up too tight a system, it may help to identify causes of resistance, in personality traits—homeostasis, habit, selective perception, dependence, illusion of impotence, strong superego etc.—and in system characteristics—conformity to norms, systemic coherence, vested interest, rejection of outsiders (Watson, 1969). The suggested remedies—gaining support of group leaders, showing change to ease present burdens, associating groups in all stages of diagnosis and revision, inducing consensus etc. (ibid.)—are of relevance for educational renewal and may well guide us in identifying certain elements of a training curriculum. Still, "organizational health" and "organization effectiveness" (Owens, 1970; van Trotsenburg, 1968; Miles, 1969) are, I think, auxiliaries only. Among such proposed auxiliaries are "instructional supervisors", "sponsors", R and D laboratories. There are, further, what Matthew Miles calls requirements of "group norms", as expressions of an "innovative climate", like "durable groups", i.e. the institutionalization of talks among teachers, risk reduction for non-conformists and—its complement—rewards for deviation, "cosmopolitization", i.e. openness to foreign ways and influences. In-service training and retraining institutions are frequently suggested as a redress for the traditional change resistance. Teacher "re-education", in other words. Perhaps. All in all, however, one may well be sceptical about the regenerating effect of all these stimulants for an educational system that is about to lose its credit. In fact, institutionalized enthusiasm for technical and managerial innovation has its dangers too.

If teachers are to play their part in educational renewal, the very notion of innovation will have to be placed in a much wider societal context. I would like to illustrate what I mean by reference to a recent discussion on teacher training reform in the Federal Republic. In its "Strukturplan für das Bildungswesen", the programme for a reform of the educational structure, published about a year ago by the German Council on Education, there occurs in the chapter on teacher training a somewhat woolly and global section on the "innova-
tive” task of the teacher, as usual confounding the issues of absorbing innovation and instilling it. This section, among others, has provoked protests on the teachers’ part in the course of which a concept of innovation was put forward which had—rightly I think—two pivots: first, the teacher’s active share in the initiation and acceptance of innovation; second, the teacher’s critical attitude vis-à-vis the educational system as a whole (for instance its organizational structure) and his share of responsibility for its renewal (Hagener, 1971).

If, as we are constantly being told by educational sociologists among others—and, in fact, hardly need be told—rapid change has become a permanent characteristic of our social environment, if “the traditional role of education”, that of “handing on, of preserving and maintaining culture, of socializing and inducting the young to the patterns of behaviour and belief of the society” is being largely transformed into that of serving “institutionalized innovation”, the attitude of the teacher toward change, without and within the educational system, is of crucial importance for the viability of this system itself.

To be sure, it might be of a certain interest to isolate and to compile traits of the innovator from statistical evidence, as did Rogers in his composite word-picture (young, of high social status, preferring cosmopolitan sources of information, exerting opinion leaderships, etc.), if only some guidance were obtained from such information for breeding them (how do you make them young?) or at least inducing them to take an active part in enabling the school to meet the demands of radical and unprecedented change. But neither are these data particularly illuminating as to desirable attitudes and behaviours of the reform-minded teacher, nor do we gain from them essentially new insights into the desiderata of teacher training. This, however, is what we need. “Teacher training”, pronounces the German Strukturplan already mentioned, “is the key problem of educational reform”, and the same view is more aggressively phrased in the account of an American study undertaken by a Commission on Education for the Teaching Profession a couple of years ago: “... we do have an absurdly antiquated educational system, unresponsive to massive social and technological changes”, and “teacher education serves as a major reinforcer of the stagnation and traditionalism permeating this system” (Mackin, 1970). In France, a growing body of opinion calls for drastic changes in the programmes and institutions of teacher training (Colloques of Caen, 1966, and Amiens, 1968), claiming that under the present system teachers are “out of touch with social reality and entirely lacking in social authority” (Grégoire, 1969).

Finally, to conclude this array of sombre testimony, let me quote from an analysis of what Philip Coombs has termed “The World Crisis in Education”: “Teachers, in fact, lie at the heart of the educational crisis”, but “today’s teacher does not have a chance to be modern”; “educational systems will not be modernized until the whole system of teacher training is drastically overhauled” and thus enabled to attract “more of society’s best talents into educational systems”. “Teacher training institutions”, it is contended, “must be an aggressive force for change in education”. Strong words indeed, perhaps a trifle overstated.

I wish to point out, however, that in most instances such analyses eventually lead up to a proclamation that what is needed is better and more efficient use of science and technology and, to quote from Coombs again, a change in “the managerial arrangements typical of today’s educational systems (which) are grossly inadequate to deal with a crisis-ridden set of new challenges ...”. Needed are “more dynamic, development oriented forms of administration, calculated to take initiatives, to unleash ingenuity throughout the system, and to bring about growth and change”.

Well and good! But improved technology and better administrative arrangements will not touch the heart of the crisis. They will
neither prevent pupils from trying to escape, the teachers from resigning, nor the more outspoken and radical social critics of our time from denouncing the school and from trying to discard it altogether. The core of the problem, I believe, lies in that very antinomy of the school’s—and the teacher’s—task of commitment to heritage and tradition, on the one hand, while fostering a critical attitude and a spirit of change and progress, on the other. There are several aspects to this issue, educational and professional. Let me therefore start again, this time from a conceptual basis for an initial teacher training geared to renewal.

II. Innovation in Education and Social Change

To be sure, we can conceive of innovation as a means of redeeming an existing social system, of reclaiming its functioning. In this case, our task is to discover optimal conditions for such innovation, and the kind of properly reduced and operationalized innovation research which I have tried to sketch will help to identify them. The extension, the impact and measure of complexity, however, which the systems of science and of education have gained within our society, the high degree of differentiation of tasks, of dynamic pressure and of uncertainty within them, both release and, I think, require a corresponding degree of spontaneity, of creativity and, indeed, of renewal much beyond that system-bound “innovation”. This is where relatively autonomous tasks are set for science and for education. Future needs and future solutions cannot be discovered through projections of the technologically possible, the economically possible etc. alone (Luhmann, 1970), but by redesigning basic features and reconstructing the social consensus for them. It is this kind of extra-functional renewal, I believe, that was at the basis of “Progressive” education in America and elsewhere—which, by the way, was quite poor in technological or managerial innovations. (That it was also quickly integrated into the existing system is another matter.) Indeed, the relative autonomy of the educational system I have just mentioned can only mean vivid communication with other developments within a society and, at the same time, a measure of resistance to mere integration. It sheds a curious light on the helplessness of some current brands of system analysis, that education is being described at once as “submissive” to “environmental dominance”, lacking “professional insulation against environmental control” and also as one over which the principal internal agent, the teacher, has an influence of unparalleled magnitude (Elboim-Dror, 1970). Are the formal inter-system notions really subtle enough to describe the kind of communication which is here relevant?

The educational movement in France on the eve of May, 1968, e.g. the colloques of Caen and Amiens already mentioned, and the forces behind it—whatever one may think of its effectiveness—are perhaps an example for the kind of impulsion coming from education in response to social dynamics. Needless to say, these developments are closely paralleled elsewhere. In fact, certain notions of the so-called “pedagogical movement” in Germany some fifty years ago, employing just those concepts of “relative autonomy of education”, “the right of the child”, etc., although they were all eventually channelled into the stream of reaction and authoritarianism, held elements of progress which are currently being revived. However, let me leave historical dialectics behind and turn to present needs again.

Or rather to the future? In the course of the deliberations of the American Academy’s Commission on the Year 2000 Eugene Rostow very aptly said: “By and large the most important problem in the future will be the quality of our innovative and creative strength in all spheres of intellectual life. In the field of education the obstructive habits of an entrenched bureaucracy are very important, of course, but fundamentally the failure is a failure of ideas, a lack of imagination and innovation”. In other
words: managerial improvements—yes, technological devices—yes, but as means of liberation and extension of reforming capacities.

In the abundant literature of major prophecy (called futurology) there is all but general agreement about the future importance of education, whatever its shape or substance. In the “Plan Europe 2000” of the European Cultural Foundation there is a study on “Possible Futures of European Education” (Draft Version, 1970) in which, according to one model, education will be a “most important means of controlling the social system”, “not only as something handing down the cultural heritage in terms of knowledge and values, but as a social medium organizing the interaction between individuals and collectives”, integrating “cognitive (scientific) and evaluative (ideological) patterns” into a “value-scientific-integrate” (cf. T. Parsons). Somewhat less sanguine is Willis Harman of the Stanford Policy Research Center in a study on Alternative Educational Futures, published by OECD in the framework of its Conference on Policies for Educational Growth (1970). Quoting George Counts who, in 1932, had asked the famous question: “Dare the schools build a new social order?”, he concedes that the answer should have been “no, they can’t”. But, he asserts, if we are to move in the direction of the “person-centred society”—as opposed to what he terms the “second phase industrial state”, a kind of brave new world—, we must anticipate for the future an increased emphasis on the role of education in accomplishing social goals. Among the then “plausible educational trends” will be education’s increasing involvement with other social sub-systems and the extension of power and control over educational matters to include teachers, students etc.

To sum up: The more comprehensive and the more differentiated the educational system and its functions, the more autonomous and influential it can be. This relative self-direction however is bound up with establishing real and mutual links with the economic, the social, the research spheres and with a re-allocation of tasks and competences within the system.

How far are such realizations recognized by current reform movements and, to go ahead with our main theme, in what way are teachers involved? Let me take our host country as an example. In an OECD (CERI) study on the administration of school reform in Sweden the ambivalence of the teachers’ position toward educational change is pointed out. To be sure: there is, as Jonas Orring asserted some time ago, a clear conviction that “education should become an instrument to improve society and its human foundations” (Orring, 1967). Sweden’s change strategy—I go on citing from Stuart Maclure’s CERI report—is unusually coherent and articulate, based on “a clear political commitment” and a “solid political consensus”. Communication and exchange with economic interests, public groups, and institutionalized research seem to have been, compared with similar efforts in other countries, exemplary. Still, am I wrong in gathering from my sources, or else am I reading into them, that there is still a wide gap between teachers and administration and between teachers and research establishment? (Or should I say part of the teachers?) It seems—and this is confirmed by Maclure’s report—that the spirit of Torsten Husén’s frivolous dictum (is it his?) that “educational reform is too important to be left to the educators” reflects a facet of Swedish reality. Co-operation between the politicians, the administrators and research has been active and intense, with regard to curricula no less than with regard to structure. But the pace of reform and the declared accent on method-materials systems seem to have brought about a—probably necessary—emphasis on in-service training and re-training of teachers and at the same time a certain inhibition of teacher initiative. It is of course possible to put this impression of a measure of paternalism—shared, as I said, by the OECD examiners—down to teachers’ conservatism, to deficiencies of earlier training and even to some degree
of resistance. Be that as it may, the importance of initial teacher training becomes only the clearer.

What I want to demonstrate by the case of Sweden—which should and could be complemented by others—is the following: Education, like science, has in our days come nearer the centre of social action. We cannot assume that all the main new impulses and reform decisions come from spheres other than education itself. Nor can education's chief agents, the teachers, be considered mere executives of change. We are really concerned with a process of communication, e.g. between science and practical engagement, for improvement. (On this "communication" more will be said presently.)

However, even as the impact of the educational system as agent of societal change can be great but is not unlimited, so there are of course limits to what teachers can do and what they can be prepared for doing. In any case, their responsibilities have grown faster than their competences. After all, the traditional tasks of education are still with us: orientation within a culture and the acquisition of instrumental and technical skills are still required. In addition, the teacher is now called upon to serve as a "countervailing force" against socio-cultural deprivation and as a "crusader" for excellence among the gifted (Floud, 1962), tasks which are not entirely new but more clearly conceived and articulated than ever before. One may expect further application of instructional technology and new forms of the deployment of human resources, but the teacher's work, for all the fashionable talk of his becoming an "instructional engineer", an organizer of learning and a manager of resources, will have to be conducted in personal interaction with his pupils. New paradigms of knowledge and new notions of learning are profoundly changing the curriculum, but in order to work with it, the teacher still has to master the essentials of certain disciplines, apart from the knowledge of child development and of human motivation and learning which he must acquire. The school may have to be largely or partly informalized, as Charles Silberman thinks, but some systematic control of the learning environment will still be necessary and has not become easier. In short, old and new tasks call for a teacher education of the highest quality and of a range so wide that it must cause us a good deal of puzzled reflection. Let me then make a third and final start with an attempt to infer from these tasks indications of needed professional qualifications, and hence some suggestions for revised training curricula.

III. Implications for Teacher Training

(1) The phase of initial training for a profession is, I think, still the best opportunity for laying the foundations for a realistic understanding of a job, for paving the way to legitimate authority and competence; in short, for effective professionalization and role-identification.

Now, role analysis—in the strict sense—has probably not proved a very useful tool for understanding, let alone for moving, the dynamics of social action. Still, even a very brief glance at some of the ambiguities and incompatibilities inherent in current percepptions of the teacher's role, can make us aware of certain impediments to his effectiveness and self-assurance. Moreover, conflict and ambiguity can of course become stimulants of positive solutions and strengthened identity. The consensus which is a prerequisite for educational work need not and should not mean stasis.

What are such seeming contradictions, such stresses which must be overcome by a competent and reflected professional attitude? Teachers are committed to a value consensus, hence, to a degree, to conformism, yet they are also expected to foster a critical attitude and a spirit of change and progress. People refer to the teacher's power to allocate chances of social place and promotion, they will accuse him of abusing his dominance over the young (Adorno, 1965); his apparent freedom from control—through